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PREDATOR 2
 THE HUNT CONTINUES
PLUS - A NEW TETRIS!

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APPLE'S SYSTEM 7 ARRIVES

First full review of the friendliest front-end ever

AUTOROUTE 4



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Frontend



FrontendFrontendFrontendFrontend SIMON SCORES ROYAL MEDAL



The 18-year-old lad pictured here has just been awarded one of only 35 Royal Academy of Arts (RAA) medals given world-wide. His name is Simon Robinson, his breeze medal is for achievements in computer literacy and information technology. Not only does Simon have to cope with the vagaries of a PC at the Barnsley Youth Development Centre, he also suffers from Cerebral Palsy. Simon did not even know that he was being nominated for the award. Terry Coenly, the centre's training manager, carried out that duty and said: "Simon's disability means that it takes enormous patience for him to key stuff into a computer." Simon, obviously pleased to have received the award said: "It's brilliant!" ■

Police point the finger at NEC

Police units worldwide can now buy into the Fingerprintix system which has become a staple of US law enforcement agencies. NEC has agreed a marketing initiative which could see every detective from Charlie Chan to Inspector Morse, via Clauseau using the system.

Fingerprintix is used by officers as they book suspects. The possible perpetrators place their digits on a scanner which then prints the image to an FBI scale card. The data is then digitised and sent to the central mainframe on which are stored millions of other prints. Not only can input be achieved directly, matching is also carried out via the computer.

Although no announcements have yet been made about a PC version of the system, paranoid police forces around the world are waiting with baited breath.

Parsons in the UK may also be able to link Fingerprintix into the Polist system to which the Government is considering paying a £5 million grant.

Polist is an on-line system used in Hampshire at the moment. The additional funding, to which local MP and computer crusader Michael Colvin is giving his full backing, would save the work of 400 policemen a year. ■

GET REAL! It's a laugh

A computer system has been designed to help people suffering from Parkinson's disease to smile again.

Research has shown that smiling is the most important facial expression in any relationship. It is a sad fact that many sufferers from depression, Parkinson's disease, strokes and speech difficulties find it difficult to smile.

The new system analyses video-taped images of people smiling - the patient is filmed and the data is taken from these tapes and incorporated into a mathematical model of the face held on computer. The model can then be re-structured to turn a non-smiling face into a happy one on screen.

When the patient is shown their image, all they then have to do is to copy it and they're smiling.

It's certainly a step forward from the old system, which involved attaching electrodes to the victim's face. ■

GET REAL!

BUSH PUSHES THE BUTTON

Just before US president George Bush was admitted to hospital for an irregular heart beat, he was learning how to turn a computer on.

Unlike his wife, and First Lady, Barbara, who carries a computer with her wherever she goes, George is still getting to grips with the basics of digital technology.



• Did the Super Mario Bros save the world from Don George?

The new Whitehouse IBM PS/2 is the presidential tutor, lesson one being how to switch the machine on. Next up is getting to grips with WordPerfect II.

Bush's long term plan is to get Whitehouse staff as computer literate as his predecessors were about tape recorders. So far it does not appear to be paying dividends. At a recent press conference, senior Whitehouse spokesman, Martin Fitzwater, responded to a question about the Oval office PS/2 with a bemused: "What is a mouse?"

STOP PRESS:

As Express was going to print this week, we received a press



• George Bush - Game Boy helped him get over his heart scars.

release from Nintendo casting in on George's recent spell in hospital. It stated: "Game Boy relieves presidential stress - Fast!" It continued: "Nintendo's hugely popular handheld video game system was one way to help the President recover after his heart-scars while jogging at Camp David." ■

The latest PC route planner to hit the streets
Autaroute Plus 4
explores some new territory - page 49



Electronic Organisers muscle in
Throw out your heavyweight Filofax and get yourself a lightweight digital organiser - page 52

Is this the World's friendliest frontend?
System 7 is finally here - page 56



EVERY WEEK

News - pages 4-11

What's new?

A taste of all the best software and hardware - pages 11

Games Week

Hot tips and news, plus Tetris, Predator 2 and Switchblade II reviews - page 50



Competition

Your third chance to be a winner in our £5,000 Amiga software giveaway - page 58



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Arch-aeology

Adventure is a new software package for the Acorn Archimedes and A3000. The program gives its users the chance to explore an archaeological dig.

Modelled as a simulation, Adventure, sets players the task of tomb-raiding their way through a Roman villa in order to excavate some valuable 'finds'. The game doesn't end there, however.

Once an object has been found, it's off to digger HQ, a hub, to consult a computer. This machine will provide

data on the object, and even reinsert it in context. It can provide this service for all but three fields - it has no information on these objects. If you discover one of these, you are sent back in time to the Roman Empire to find out about the object by talking to the people who inhabited the villa. Once all three objects have been discovered, you are awarded a certificate.

Price is £25.15. For more information, contact Shenton software on 0666 840433. ■

They're the tops!

The American based Software Publishers' Association has just published its list of top selling games for the PC.

With MS-DOS based machines growing in stature as a gamers' tool in the United States and Europe over the last year, the following list caused much interest. The top 10 is as follows:

- 1) Eye of the Beholder Electronic Arts
- 2) Space Quest IV Sierra On-Line
- 3) King's Quest Sierra On-Line
- 4) Wing Commander Origin
- 5) Death Knights of Kryme Electronic Arts
- 6) Sim Earth Macro
- 7) Sim City Macro
- 8) Flight Simulator Microsoft
- 9) Links Access
- 10) A-10 Tank Killer Sierra On-Line

IBM stays in South Africa

64.5 million IBM shares worth of voting power went behind a motion for the company to cut links with South Africa at its latest AGM.

This figure only amounts to a meagre 16 per cent of the total voting potential and is the sixth vote in as many years aimed at taking Big Blue out of apartheid territory, where it carried out £41 billion of business last year.

Following the vote, IBM chairman, John Akers said: "We are proud of how we are conducting our business in South Africa. Apartheid is abhorrent to us". ■

£99 price set for official launch of Sega's hand-held

GAME GEAR HERE IN JUNE

Virtually real future combat

Cyber Fight is the provisional title for a game that Electronic Arts reckons will be the first 'virtual reality' combat game for the PC.

Due to the nature, Cyber Fight is a combat game in which contestants are linked up in cybernetic suits, using GoMotion tracking technology for realistic graphics, the gameplay also accounts for gravity, friction, inertia and elasticity.

It is expected to retail for £29.95. ■

The battle for hand-held games supremacy has finally been joined by Sega with its Game Gear machine.

Virgin Mastertronic, Sega's distributor in the UK and Europe has set a price of £99 for the Game Gear's June launch. Ideally it would have given it a price tag £20 lower. It competes with Atari's colour Lynx machine.

However, at the magical sub £100 price Sega is in direct competition with its arch-rival, Nintendo, and its monochrome Game Boy.

The games to be bundled with the Game Gear will of course be licensed from Sega itself. They are as follows:

Coliseum, G-LOC, Wonderboy,

Super Monaco Grand Prix, Dragon Crystal, Psychic World and the critically acclaimed Disney licensee, Mickey Mouse.

Whether or not Sega's great hype and proclaimed Mario-buster, Sonic the Hedgehog will find himself on the hand-held before the end of the year is highly unlikely.

Prices for the games will be either £19.99 or £24.99. Sega further claims that there will be 21 games out by the heavy buying period leading up to Christmas. This is more than likely as the company can call on the massive back catalogue of cartridges already released for the Master System and Mega Drive. ■



• The Game Gear - to be bundled with a host of Sega games.

Shoot-'em-up with a purpose

The Executioner is the first game from Hawk, a new label which promotes "arcade games with more depth".

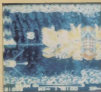
The game is a soft shoot-'em-up with elements of trading information gathering. As well as plying a shuttle craft over alien terrain and blowing up enemy ships you also have to capture prisoners and collect supplies so you can fly to the next planet.

"There's actually a purpose behind blowing away everything in sight," said a spokesman for the company.

The Executioner will be available later this month at £25.99 for the Atari ST and Amiga. ■

Activision returns

Activision UK is dead. Long live Activision Europe. Since the death of the UK branch, Activision's parent organisation has settled its European



• R-Type II: over mind clearing alien landing

operation in Paris, and has just released six games for the ST, Amiga and PC.

R-Type II, the heavily awaited follow-up to one of the greatest shooters ever played is set for a July release on the 16-bit machines. It will retail for £25.99.

Hunter, a 3D vector graphics adventure-'em-up has already received attention in the media and was due to be released before the demise of Activision Europe. It and Descent will now be available from August at £35.99 and £25.99 respectively.

Bounder, an arcade-style game which includes both vertical and horizontal scrolling, and level guardians, and one or two player modes. It will be in the shops from July at a price of £25.99 for ST and Amiga owners.

Shanghai II - Granger's Eye, a puzzle game based around Maj-Jong which uses 12 different



• Battletech: colourful coverage in the space age.

layouts taken from the Chinese calendar. Cost is £35.99 for the Amiga and PC and you can get your hands on it from September.

Battletech - the Cruscent Hawk's Revenge, Activision joins forces with Infocom in this space-age, 350 colour 'epic' with 25 scenarios spread across five planets. Available from September for the PC at a price of £35.95. ■

Fees rise to £75 – 'almost Latin American proportions', says MP

DATA REGISTRATION PRICE RISE SLAMMED

Labour MPs have attacked the rise in the charge for registration under the Data Protection Act as unfair and counterproductive.

The fee is due to rise by £19, from £56 to £77, on 1 June. Harry Cohen, Labour MP for Leyton in East London, claims that the fee will discourage registration since it has to be paid by any individual or company which stores personal information on a computer database. He also maintains that it is biased against small businesses and non-commercial organisations.

"It is in the public duty to register, so the fee should be kept at a minimum to encourage registration," he told Express. Cohen also raised the subject in the Commons earlier this month.

The registration fees are used to pay for the running costs of the office of Data Protection Registrar (DPR). The Registrar's office ensures that the provisions of the Data Protection Act are adhered to. Under the Act, individuals have the right to access any information about

them which is held on an electronic database. The office is also responsible for investigating complaints relating to the Act.

Like many other Labour MPs, Cohen believes it is wrong that you should have to pay to register and that it creates a situation which will lead to rapidly increasing fees. When the fee was introduced five years ago it was just £22. The forthcoming rise to £75 represents an increase of almost 350 per cent. "It is almost Latin American in proportions," said Cohen.

PROSECUTION

The Registrar's office does not feel, however, that the new fee will deter large numbers of people from registering. "We have been prosecuting people increasingly and more regularly, but the rise doesn't have much to do with it," says marketing manager Diane Brown-Hill. "We've existed for a number of years now and the homogeneity period is over. People should be fully aware of the Data Protection Act by now."

She also points out that the fee covers a three year registration period. "That's just £25 a year, less than you would pay for a magazine subscription."

BIASED UNIFORM FEE

Cohen also feels that a uniform fee is biased towards large organisations, such as ICL, for which £75 is virtually insignificant. However, £75 for a small business or social club is a much larger chunk of their spending. Also, every school which holds a database will have to pay, and the accumulation of schools across the country will add thousands of pounds on to the education budget.

Registrar Eric Howe is sympathetic, but points out that this method of funding his office is actually laid out in the 1984 Data Protection Act. "Changing the way we are funded is a matter for ministers," he says.

Howe actually proposed a simplification of the payments system in 1989 which would have meant that only larger companies and organisations which



• The Data Protection Act: claimed to be unfair to schools and small businesses.

dealt with "sensitive" information would have to pay. Similarly, a Home Office report last year concluded that an alternative method of funding the office should be found. So far the politicians concerned with changing the law have ignored both.

EUROPEAN DIRECTIVE

Howe cannot see the situation changing until at least 1994. This is because of the European Directive on Data Protection which is currently passing through various Commons com-

mittees at the moment and will not be finished until January 1993. Its outcome will probably have effects on the Data Protection office, and Howe believes this will prevent any immediate changes taking place.

Express attempted to contact MPs on both the Government, and Liberal party benches this week to ascertain the level of support, or otherwise, which Mr Cohen is likely to receive.

At the time of going to press we had received no responses to our persistent telephone calls to the offices of Michael Cohen MP or the Right Honourable Paddy Ashdown – both who are known to take a keen interest in computer-related matters. We did, however, receive an official statement from the Home Office which merely states that the increased fee was necessary to meet the Registrar's costs.

Meanwhile, Cohen is set to bring up the subject in Parliament again when the new European Directive on Data Protection is debated in the Commons next month. ■



Alvin Farnett, Organizer of the All Formats Fairs.

Fun at the fairs

The dates and venues of the next three All Formats Fairs have been announced. The fairs, which have proved to be popular with both PC and 16-bit enthusiasts, as well as the occasional PC, and certainly, driven Mac users, will go ahead in the following places:

- 13 May – New Horticultural Hall, Graydon and Eborham St, Westminster, London.
- 9 June – National Motorcycle Museum, Coventry Rd, Solihull, Birmingham.
- 27 June – New Horticultural Hall. The organisers claim there will be "Thousands of bargains and savings for all computer users."

Businesses should compete for IT students, says report

Computer firms should be able to award degrees and compete for students the same as universities, according to a report from the Institute for Economic Affairs.

Written by Sir Douglas Hague, an academic at the Manchester Business School, Beyond Universities claims that students training for jobs in the "knowledge business" gain better experience from learning in a free, competitive situation. It suggests that many colleges and

universities are bogged down in academic tradition and do not reflect the new high-tech age.

"The best preparation for becoming a scholar is now not necessarily a post in a university," says Hague.

He also says that many firms offer training schemes more innovative and relevant to the IT industry than universities, and that unless educational establishments move out of their "academic bunkers" they will become obsolete. ■

Graphs the easy way

Even the most artificially inept PC user will be able to produce professional looking charts, diagrams and documents thanks to Graph-In-A-Box.

Publisher Affiliated Software reckons the package is the easiest to use business graphics software in the world. It has data capture functions which allow statistics to be taken from other

files and transformed into presentation graphics.

There are 15 chart types and nine fonts which can be printed out or exported to either Desktop Publishing and word processing packages. Graph-In-A-Box costs £250 for the single user version and £390 for the network version for up to five users.

Contact: Affiliated Software on 0273 606125. ■



• Money for old ships. Could you cash in on HP?

PC trade in on HP

Hewlett-Packard is offering trade-in deals on old PCs. The company will give up to £330 to purchasers of its Vectra series computers on receipt of any old PC.

The offer will run until the 31 July and covers the following machines: the Vectra 165 (£140), 185, 240, 260, 340, 360, 400, 420, 440, 460, 480, 500, 520, 540, 560, 580, 600, 620, 640, 660, 680, 700, 720, 740, 760, 780, 800, 820, 840, 860, 880, 900, 920, 940, 960, 980, 1000.

The trade-in, however, does not extend to the Vectra 485X which Hewlett-Packard is soon to launch. ■

LANs slide

Nearly three working months a year are lost due to failures in Local Area Networks (LANs) according to a report published this month.

Consultancy firm, The Networking Centre surveyed 50 companies throughout the UK. It discovered that the average LAN crashes 20 times a year with over four hours of downtime related each time.

Even the company itself was stunned by the results. It did however, refer to an American survey carried out by Inteltek, which had produced very similar conclusions. Following criticism of the survey, The Networking Centre's senior consultant, Gave Sample said: "I find the figures hard to believe myself". ■

Sound buy for the Amiga



• The AD2185 from Sunline. It offers 12-bit sampling and SMPTE time codes.

An upgrade of the acclaimed Audiomaster II sample editor is among the new range of powerful audio peripherals for the Amiga from Sunline.

Auditor 4 is an advanced 8-bit sample editor which adds to the features all ready available on Audiomaster II.

Now you can record direct to floppy disk, save executable sounds and use real time filters. The program is also more compact than its predecessor, taking up half the amount of memory space, but also quicker.

Also in the range is Studio 16 which turns an Amiga 2000 or 3000 into a professional digital audio workstation capable of recording hours of music to hard disk synchronised with a time code.

The final package is Perfect Sound 3, an 8-bit stereo sampler which connects the Amiga to a CD player, radio or microphone via the computer's parallel port. Bundled software allows you to record and edit any sound and you can control the left and right channels individually.

All these products will be available in the UK through HB marketing from next week. Pricing has yet to be announced, but they are currently retailing in the US for around \$100 each.

Hardware add-ons are also on the horizon with the AD2105 12-bit sampler card which makes use of Studio 16 software.

The AD2105 completes the range. A 16-bit card it offers MIDI input and SMPTE compatibility.

For more information call HB Marketing on 0153 686000. ■

Holograms and rainbows combine to create new chip

LIGHT FANTASTIC!

Scientists working at IBM in the United States have discovered a polymer with potentially the same qualities as fibre optic systems.

The four scientists, W. E. Moerner, Stephen Ducharme, J. Campbell and Robert J. Twieg, have been working on the project at IBM's Almaden research and development centre in San Jose.

The polymer's constituents factors are derived from materials found in the photo-reactive cells of photocopiers and laser printers. However, a new, and as yet unnamed, epoxy also enters the equation. The combination of these ingredients produces the revolutionary polymer which possesses the highly sought after photo-refractive (PR) qualities only previously found in crystal-based systems.

The polymer's qualities allow it to act as a 'net' which captures the electronic patterns formed as laser beams cross within it.

The information which is caught in this net behaves in a similar way to a hologram. The potential for data storage goes far beyond this simple analogy however. The IBM team explained to the Materials Research Society meeting in April that up to 100 holograms, each of which can contain one million bits of data, could be stored on one minuscule area of the polymer. Their estimate was that this store would measure only 20nm in diameter.



• The PS/2 486: IBM is now developing technology which will make the 80486 just pedestrian

While the commercial applications of this new technology are still five to ten years away, it is thought that IBM is already making feasibility studies into possible large scale production.

The long term effects of this potentially low-cost, high powered storage and data transmission media can only be imagined. IBM's discovery comes at the same time as developers at Texas Instruments demonstrated a chip which uses light instead of conventional electrons to hold and transmit data. This discovery came out of an attempt to combine two previously incompatible systems - silicon, and gallium arsenide (GaAs).

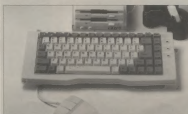
The new chips are called Optoelectronic Integrated Circuits (OEICs). Each one makes use of light GaAs infrared light emit-

ting diodes (LEDs) combined with CMOS-based silicon circuitry. The ability to use light for the transference of data has allowed the developers to bridge the previously unbridgeable gap between GaAs and silicon, and to actually speed up the rate of data interchange.

The basic process which led to this discovery was invented in the laboratories of Texas Instruments as far back as 1988. It was then called 'integration'. The company hopes that this advance in chip design will enter the commercial sphere within the next ten years.

The combination of IBM's new polymer, and Texas Instruments' gallium arsenide/silicon light bridge could well bring irrefutable benefits to users in years to come. ■

Smallest PC Ever



• The Tiny PC: is it a desktop or a laptop?

A new computer company has launched itself into the marketplace with what it claims to be the world's smallest desktop computer.

The Tiny, from Tiny Computers Limited, has a footprint about the size of an A5 piece of paper. It has an 81-key keyboard and the graphics are VGA and Hercules compatible. It comes with a TV FR modulator so that it can be linked to a television as well as a standard monitor. It is available in a variety of configurations from the LOMiny TCI with a single floppy drive for £290 to the T20 to TCI with a 40Mb hard disk and floppy drive for £590.

Tiny Computers Limited can be reached on 0737 779511. ■

Secure-IT

Businesses can now have their computer systems checked by government approved experts, for a fee.

The consultants are known as Commercial Licensed Evaluation Facilities (CLEFs). And have been appointed by the Department of Trade and Industry (DTI) together with the Communications Electronics Security Group (CESG). Companies will have to supply the CLEFs with details of installed computer security systems so that future threats, and the correct defence against them, can be properly evaluated.

The DTI hopes that the CLEFs will eventually be able to build up a catalogue of certified security products. The project has taken two years to develop and brings the UK in line with other European countries.

At the time of going to press the DTI had not confirmed prices, nor even a pricing scale for the CLEF service.

For more information call the UK IT Security and Evaluation and Certification Scheme on 0463 621877. ■

Apple's latest operating system is widely acclaimed

SYSTEM 7
LAUNCHED

The Macintosh's new operating system and front end, System 7, is now available from Apple Centres at price of £40.

May 13 saw the simultaneous worldwide launch of the eagerly awaited OS, which has been in development for over two years. System 7's eventual public release followed numerous delays which Apple has blamed on "technical difficulties".

System 7 was designed by Apple's software engineers at its Cupertino, California HQ.

The basic WIMP (Windows Icons Mouse and Pointer) interface which is the hallmark of the Macintosh has been retained, with a 3D look added for users of colour machines.

The upgrade to the operating system extends far beyond cosmetics however. Refinements have been made to networking, font/face installation, application launching. Context sensitive help has also been added. These changes extend to all Mac computers from the top of the range file down to the entry level Mac Classic.

One area which is expected will be heavily influenced by System 7 is that of Windows 3.

According to Aletta Cox of Microsoft who spoke to Express this week: "I must make it clear that with Windows and the Mac operating system, we do not compete against Apple. In fact the release of System 7 gives

Apple a great opportunity to compete with us", in terms of future improvements to Windows. Ms Cox has this to say: "The way in which System 7 totally hides the operating system from the user is obviously impressive. I would like to see Windows picking up on some of the graphics improvements to System 7. Generally, though, I think this is going to be a good year for Microsoft in the Mac world. We have now planned before Christmas. And yes, all of our product upgrades for the Mac will be compatible with System 7, devices such as Publisher and Subcribe".

Apple has in fact stipulated that any new software developed

for the Macintosh range will have to contain System 7 compatible devices. The two major examples of such System 7-friendly options are the context sensitive Balloon Help system, and the innovative Cut/Paste upgrade - Publish and Subscribe.

In terms of future developments, it is expected that major upgrades to System 7 will be forthcoming before the end of the year. These will appear as System 7.0.1, 0.2, and so on, up until the release of 7.1. A first major enhancement sometime in 1992. Apple has not stopped there however; statements made by the development team make clear that System 8 is even now in the planning stages. ■

Full motion
Macintoshes

A new CD-ROM based encyclopaedia has been launched for the Mac. The Dictionary of the Living World is claimed to be the first CD to arrive in the UK, which uses full motion video, 3D video clips are included on the CD. Users can also edit and add entries.

For those many Mac users without access to a CD-ROM drive, there is The Dictionary of the Living World, an floppy disk. It contains the full text of the CD-ROM version, as well as 1,000 black and white photographs. Price has not been set on this product as yet.

Price for The Dictionary of the Living World is £205.82. The UK distributor for this product range is Kintex (0232 368873). ■

Classic costs



After claiming that sales of the Mac Classic have sky rocketed in the past three months, Apple is now predicting a drop in profits.

In fact sales of the Classic and the other low-cost Macs appear to have a great deal to do with the fall in profits.

Apple is blaming the losses on the fact that a larger percentage of its sales have been taken up by lower end machines, rather than the pricier Ix and IxX.

The weakness of the dollar in Europe is also quoted as a factor in the financial fall.

However, Apple is quick to point out that actual volume of sales of its machines are still very healthy.

It quotes an 85 per cent increase in sales in the first and second quarters of 1991 compared to the same period last year.

"The lower priced products succeeded more than we imagined and the product mix is moving towards the low end and the profit margins there are slimmer," explained Christopher Escher of Apple public relations.

Apple had news follows on from BBF's statement, made last month, that it lost money for the first time in its history.

This was also partially blamed in the fall off in sales of its highest products such as mainframes, and a bad dollar exchange. ■

System 7: the upgrades and innovations detailed

System 7 comes with a slew of changes to its predecessor. While you can read the full, world exclusive review in this week's Express, here are the details:

- **Macs with memory management chips** can now make use of virtual memory. Essentially this means that a Mac with an 8086 hard drive can convert that ROM to usable RAM. This does not apply to the Mac Classic, SE, and Plus.

- **Publish and Subscribe** takes over from Cut/Paste as the desktop. This is a 'live' system which can be shared by applications, and automatically updates data. All Macs.

- **Balloon Help.** This interactive system is context sensitive. Apple has stipulated that all new software developed for Macintosh computers must be able to use Balloon Help. All Macs.

- **Process Manager** is the replacement for the previously optional Multi-Finder background application. It allows pre-emptive multitasking to be carried out. All Macs.

- **Built-in networking.** Previously users would have to buy additional software to make use of the Macintosh's LocalTalk system. System 7 does not need additional software. All Macs.

- **Apple Menu.** At the top left hand side of the Mac screen is an Apple symbol which acts as the icon for the Apple Menu. System 7's Apple menu could only launch disk accessories such as the calculator. System 7 allows launching of any application. All Macs.

- **File organisation.** The files within desktop folders can be viewed by clicking on a button

rather than opening the folder itself. All Macs.

- **Cosmetic changes.** A 3D look has been given to the desktop. Not more Macs such as the Classic, SE and Plus.

- **Font installation; previously, loading new typefaces for use in Macintosh-based applications such as Quark Express and Aldus' Pagemaker, entailed installing them using Font/DA Mover. System 7 acts in an intelligent manner, automatically installing the fonts.**

For the world exclusive
review of System 7
turn to page 56.

Massive Mac screen makes its debut

The new version of Radius' 44-seg Full Page Display (FPD) monitor has hit the market thanks to the success of the new Mac Classic and LC.

The monochrome Radius FPD can be switched for use in both landscape and portrait modes; it provides 78 dots per inch resolution compared to the 72 for available as standard on the Mac Classic.

A whole A4 page can be displayed in its entirety without the need for scrolling, with text large enough to read easily. The new model is specially designed to suit the needs of Classic, LC and

SE users, but will also support the rest of the Macintosh range.

Featuring a non-glass screen and an optional 3rd and 5th level base, the FPD comes with Radius' software display utility software. The original FPD was released in 1986 to accompany the MacPlus and SE, but was withdrawn as their popularity declined. The FPD for the Classic retails at £395 while the LC version costs £559.

Models for the machines in the Macintosh range - the SE, SE Plus, and Ix - cost up to £1,200. Radius can be contacted on 082 200 8272. ■



• The FPD monitor on SE page can now be shown on the Classic.

System 7 to Excel

The first batch of System 7-friendly software has also been announced with Microsoft leading the way.

Its Excel spreadsheet has been upgraded to version 3, and according to Microsoft, it fully implements the new Excel, users will require System 7.

A major change, in that 2MB as opposed to 1MB of RAM is now required to run Excel.

Price is £345, although a free upgrade is available to users who bought the spreadsheet after January this year. For more information contact Microsoft on 0734 500743. ■

NIBBLES

School wins CDTV

A comprehensive school in County Armagh has won a CDTV as the first prize in Commodore's Business Education Challenge. Members of the winning team from Lismore Comprehensive had to prepare and execute a marketing plan for their school. The school is the first to receive a CDTV, which was officially launched last month.

HP-in court

The Adams Corporation has filed an antitrust suit against the Open Software Corp and its partners, including Hewlett Packard. The company is accusing them of acting as an illegal cartel conspiring to set software technology and price ceilings in other markets.

Portable Olivetti

Olivetti will be setting up 20 'Portable Centres' to market its new range of portable and notebook computers launched this month. The centres will be staffed by Olivetti trained sales assistants. Prices for the new portables range from £1,119 to £3,199.

The big screen

Mitsubishi has launched a very high definition, 35 inch monitor. Designed for presentation uses it reduces distortion caused by the curve at the edges of the screen by automatically correcting pixel clusters in their areas. Compatible with most PC, PS/2, Macintosh II and Unix-based workstation/high-resolution graphics cards, the monitor will cost about \$2,000 when released in July.

Grey Gold imports

Grey Imports of Golden Image software have entered the UK following supply problems the company had earlier this year. Golden Image is refusing to provide any form of help, advice or warranty to anyone who buys these illegal copies. Many of the grey imports are not the UK versions of the software.

Laserfax

Hewlett-Packard has launched the LaserJet Fax Accessory, a stand alone device which allows faxes to be printed out on any laser printer. It sits between the PC and the printer, and if the printer is not on it stores up incoming pages in a buffer that can hold up to 10 pages. A 1Mb memory upgrade allows storage of up to 90 pages. It retails for \$1,895 in the US. ■

CDTV's launch is quickly followed by add-ons galore

CDTV: THE EXTRAS

Some three weeks after the launch of the £599 Commodore Dynamic Total Vision (CDTV), more details are emerging of the optional extras being made available for the system.

In line with Commodore's marketing policy, which is designed to appeal to general household consumers rather than competing enthusiasts, the add-ons will be known as 'Accessories'. Hewlett-Packard, Commodore UK's marketing assistant, told Express, "We're calling the add-ons 'accessories'; they are peripherals but they're known as accessories because CDTV isn't a computer". To further consolidate the products positioning as a household device, Commodore is also reported to be spending £6 million on a press and TV advertising campaign.

Jonathan Anderson, Commodore's retail marketing manager, confirmed that a range of accessories will be available

by September.

First up will be an infrared mouse, codenamed the handster "because it hasn't got a tail, closely followed by an infrared trackball, with connections for joysticks, and an infrared keyboard. Prices are as yet unconfirmed. By the end of the year, the company hopes optional floppy drives and printers will be available, although as yet, the CDTV specification doesn't allow for hard disk connection. But as Anderson added, "You will be able to do all the things you can do on your AS500 as long as you add a floppy drive and keyboard".

He also mentioned that connectivity software for networking groups of CDTVs together for use in schools is in the pipeline. A built-in modem will also be offered, as an authorised licence, along with a personal memory card drive. This will allow users to load and download data from credit-card sized



• CDTV: Q, when is an add-on not an add-on? - A, when it's an accessory.

wafers each capable of storing up to 512K of code. These memory cards will comprise both ROM and RAM versions, thus opening the possibility of releases in applications in card format. 64K, 256K and 512K versions will be offered which will enable users to save preferences, game positions and scores. Using the cards, the operator will also be able to switch off CDTV and resume an application at the point left simply by switching on and reinserting the card.

The £5 million advertising campaign, scheduled to begin in the run up to Christmas will be accompanied by the catchphrase, "That's one way of looking at it".

The campaign will take the form of two adverts, 'Mines' and 'Puzzle' which will stress the machine's high quality graphics possibilities. A further £800,000 will be spent on advertising in colour supplements and specialist press. Details of the firm's TV advertising plans have yet to be decided. ■

US chip chat offends Japan

A statement made by the chairman of the US Senate foreign relations committee, Lloyd Bentsen, has produced a storm of protest in Japan.

On a visit to Semtech, the US government funded semiconductor project, Bentsen claimed that seven Japanese firms were keeping advanced semiconductor information from US companies.

He then went on to say that American chip manufacturers, such as those involved in the Semtech project, were not receiving valuable data relating to processing semiconductor wafers, due to a Japanese strategy of world domination.

Bentsen continued by accusing the seven Japanese companies of inflating prices charged to American companies, by up to 30 per cent compared to those charged in Japan.

Reaction from Japan has been swift and distinctly angered. The Electronic Industries Association of Japan (EIAJ) called Bentsen's claims "ridiculous".

Hicks, one of the firms named by Senator Bentsen, stated: "If we did receive an order, we would provide the equipment". It backed up this statement by saying that no such order had ever been received, as

Amiga animates Edinburgh 1991

This year's Amiga Animation exhibition and competition is to be hosted by the Amiga Centre Scotland from August 31 to 31.

The 1991 event is fourth of its kind to be run. Last year's final exhibition of the winning entries featured 11 different categories, and 28 pieces of work. The eventual champion animator was Eugene Messina with his Main Video.

While Messina's work was widely accepted as being of excellent quality, and the obvious winner, the general standard of entries was poor, with amateurish attempts mixing in with corporate videos. Amiga Centre Scotland is looking forward to a healthier selection this time around.

If you would like to take part in what has become an international event, it coincides with the Edinburgh Festival, the year entries should be received by July 31. Send them to the following address:

Rona Shires, Animation Competition, Amiga Centre Scotland, 4 Hart Street, Edinburgh, EH1 3RN Telephone 031 557 4242, or fax 031 967 3260. ■



• A score from Main Video, 1990's animated Amiga masterpiece

Intel's next generation



• Faster, bigger and cheaper. Intel's 486 upgrades are announced.

A 60MHz version of Intel's 486SX chip, nicknamed Igloo, is rumoured to be near its release date. And it's the lastest yet.

The 486SX chip which was the star of last month's Intel Computer Show, and which is already being used as the heart of PCs from IBM, AST and Hewlett Packard, runs at 20MHz. The new version beats its predecessor in terms of speed and the number of instructions it can carry out - 55 million per second (80%) compared to 16.

A 30MHz version of the chip has been demonstrated to the press, and is scheduled for release in June this year. Intel has also showed basic plans for a massive 100MHz version of the chip.

This will be the first true test-bed for Intel's eagerly awaited, and inevitable, 586 processor which is widely believed to be timetabled for a 1993 launch. ■

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A page of news aimed specifically at people who don't wish to waste time searching for new product releases and updates. From now on this page will reflect all of the most up-to-date hardware and software launches, from 486SX PCs to modems, from keyboards to CD-ROM drives, in an at-a-glance style.

Each piece of information has been carefully examined for both newsworthiness, and information value. We will give you the low down on price, technical specifications, and availability as the news comes in. Expect the unexpected, tomorrow's standards will appear here first. Please note that, to the best of our knowledge, all prices quoted are inclusive of VAT.

A chip off the new block

PRODUCT: RISC chip
NAME: AM29030 and AM29035



A strange choice for the news page you might think, but we know that many of our readers are interested in the very heart of their machines, and also in what could be the next big thing. These new Reduced Instruction Set Computer (RISC) chips offer the developer, and hence end-user, if necessary, the chance to design state-of-the-art machines.

Even now Apple, NeXT and Atom are working to make machines based on RISC architecture a standard worldwide.

Not only do the chips offer all the benefits of reduced instruction technology, they also come with a 4 to 8K on-board cache for instructions. Again, as the words of our resident technical expert: "This gives the cache some kicking space!"

Price: 16MHz = £52, 25MHz = £84, 33MHz = £105.

Availability: The chips will begin shipping in July from September.

Target users: Developers and hardware manufacturers - with specific attention being given to imaging controller devices (such as those used in the NeXT machines) and software manufacturers.

Contact: 0463 769020
Perceived competition: None

A star is born

PRODUCT: Printer
NAME: Spectrastar

This colour film and wax transfer printer makes use of clay paper to produce high quality full colour pages. It makes use of



• The new IBM Mitsuishi floppy drive for the IBM PS/2 - the first of its kind.

Drive with attitude

PRODUCT: 3.5-inch disk drive (internal) **NAME:** Mitsuishi MF256C

Compatible with IBM's PS/2 PC, this drive is a high density, 4Mb version. In effect this provides 2.88Mb formatted. The format magnetic disk heads used in the drive are claimed by the company to offer a maximum data transfer speed of one Megabit per second, from the 80 cylinders and 160 tracks which are provided for storage. It measures 160.6mm (width) x 25.4mm (depth) x 145mm (height), and is completely compatible with standard 1 and 2Mb drives in both read and write modes.

A spokesman for Mitsuishi public relations company in the UK, told Express that this drive was a "new industry standard".

Price: £90
Availability: New
Target users: Original Equipment Manufacturers (OEMs), Value-Added Resellers (VARs), End Users (by the end of August, 0707-274100)
Perceived competition: Both Sony and Citizen are working on similar products.

a RISC processor, and has full Postscript compatibility.

The three colour ribbon which you will require for the best output results costs £120, and will provide up to 340 pages. Additional planned for the printer include a 6Mb RAM upgrade which will take the machine to a substantial 32Mb.

An internal hard drive, and 35mm camera attachment are also promised in the near future.

Price: £6,500
Availability: General Parametrics and other reputable printer dealers.

Target users: Desktop publishing press, high quality presentation.

Contact: 061-697 3846
Perceived competition: The nearest rival is Technographics. Although, according to the manufacturers of the Spectrastar, the competition does not match up in terms of speed and disk formats.

Space Age

PRODUCT: Local Area Network (LAN) substitution
NAME: Space Station

While this product is pitched as a VGA slave terminal for a LAN system, according to Express' technical editor Keith Pembert, it has everything needed to make it a standalone 286/386SX PC. It looks exactly like a standard PC 102 key keyboard with no system box. What makes it different is the fact that the disk drive and expansion ports are mounted

on it.

The standard unit comes with 1Mb upgradable to 4Mb. It comes with an optional disk drive unit, two serial (RS-485) ports, 1 parallel (ST-50) port, and a half sized 15.4 inch screen. Not only is the user unencumbered by a large footprint system case, the Space Station is also said to be exceptionally quiet. External floppy drives are already online, and a hard disk is in the pipeline.

Price: £563 for 286 without floppy drive (ES64 unit), £1,073 for 386SX (EL163 with floppy drive).

Availability: Now available "off the shelf". Prior to this it was on test with both Ethernet and Arcnet systems.

Target users: Small network users, corporate clients. This is a recommendation from the company itself. Note: Examine issue 139 for the shelves or 6 July for a full review.

Contact: 5 Plus Peripherals on 0483 755030
Perceived competition: Small footprint PC workstations.

Ion Age

PRODUCT: PC expansion board for use with Canon Ion still video camera.
NAME: Ion PC Kit

This package groups the much vaunted Canon Ion still video camera with a three

quarter sized 16-bit board and all the necessary software required to process the photographs using your PC. To use the card, you will require a 286 PC or upwards, with 540K RAM, running DOS 3 or above. The kit allows you to take high quality photographs and develop them almost instantly, and convert the images into standard graphics formats such as TIFF and PDI. Once stored on a floppy or hard disk, the graphics can then be imported into desktop publishing applications.

Peripherals planned for this product include a set of tele-converter lenses, a film adaptor, and image software releases which we believe will include compatible products from Alaris and Precision Software.

According to a spokesman for Canon, the Ion kit offers a new way into the graphics marketplace. "Everyone can get into desktops. Now everyone can do the same, as easily, with pictures".

Price: £1,169
Availability: Estimated at the beginning of June, from Canon directly or from specialist PC retailers.

Target users: Desktop publishing, image processing. In the long term, graphics formats which will place PC compatible images in the realms of the public.

Contact: 081-723 3173
Perceived competition: There is none, to the best of our knowledge.

The bigger they come

PRODUCT: 15.95 KHz data projector
NAME: NEC GP3000



A massive projector for use in meeting rooms, the GP3000 provides a clear RGB image of 300" high by 600" wide. It offers both EGA and VGA compatibility, with interfacing achieved via five, five-, D-type inputs. Both SVHS and PAL standards are catered for, which means that the user is not limited to using the device with a computer. Ideally, a multimedia set-up could be achieved with this technology.

Price: £10,875
Availability: Now
Target users: Seminar and exhibition managers.

Contact: Anne Valley Displays: 0264 356081.
Perceived competition: Barco is also producing projectors on this scale. However, according to Anne Valley: "Barco isn't a complete solution".

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EXPRESS MAIL

Write and tell Hayden Fitz-Williams what you think! Reach him at *Express Mail*, 30 Monmouth Street, Bath BA1 2BW. Sorry, no personal replies, even with an SAE and remember, only **SOME** letters will be filed!

Errr...sorry?

I JUST thought I'd write and tell you how much I've enjoyed the C&A column over the past few weeks - it really has been splendid! Please give my thanks to the person responsible for such an informative interesting and entertaining column.

Errr...Andrea Roberts, *Merseyville*

THANKS ERRR... Doubtless will be receiving similar communications from Jason Hobson, Ian Wrigley, Andy Hutchinson, Rod Lawton, Robin Alway, Ken Coombes and, of course, Paul Rigby since the PC column makes its long-awaited reappearance.

Post-piracy

I KNOW that £20.00 is a lot to throw at a new game, especially if you aren't too certain of the quality of what you're getting. But is pirating the stuff REALLY worthwhile? Presumably you people have acquired a fair amount of programming experience, plus a bit of business acumen through successfully flogging the fruit of your labours.

Are you really utilising these skills to your advantage? I suspect not, then, it's fun, but in it's profitable exercise? Maybe now, but will it be any good when you get out into the big, bad and prohibitively expensive Real World, with all its hassles and obligations?

I used to crack software myself, back in the days when all the games were on tape and I wanted to get them onto disk. I learned a lot about assembly language and how my machine worked from looking inside other people's code. But now, through

doing a Degree course in Computer Science, I've graduated (sorry 'bout that pun) to bigger and better things. I've learnt about REAL programming, and about REAL computers, and with luck I'll get myself a Degree and go find me a REAL job. Believe me, some of you may think that breaking through a sophisticated game protection system on your home computer is a major achievement, but compared to designing, implementing, testing and maintaining a £65 application running on a BIG machine, and doing so as part of a team, it's pretty minuscule.

I suggest you invest your effort into putting your skills to a more profitable use. Piracy doesn't help anyone in the long run, especially the actual pirate.

Alan Rajah, *Woburn, Herts*

COULDN'T AGREE more myself. But while one day the printer may give up

and get to grips with the real world, there'll be others waiting to replace them. I'm increasingly coming to think that the only way to stop piracy is to stop releasing games on floppy disks. Mathematics that considers will dictate CD format only games releases within five years. If you can't stop the paying fingers, lock the till. But the real killer would seem to suggest another problem.

The real world

WHERE does the majority of pre-release software come from? A lot of games come from developers. *Amiga*ware Islands was given to us a while prior to its release, but most came from any of three places.

1) Duplications - duplicating can take weeks. We have contacts working in such places who give us a copy as soon as they come in. This gives us the game up to 3 months before release.

2) Distributors - as above, but the people we have work in these places get us anything up to two weeks before release.

3) Shops - Slightly slower here with a few exceptions explained below. Different countries have different release schedules. We get games from shops in America, Australia, France, Italy - all over the world. France is a good place for shop releases, especially Paris.

For an industry which runs solely on the exploitation of

pitiable young programmers' talent, the only people truly *in* by piracy are the grey-haired money men who run these companies.

Good games always sell and make programmers money only if they are on a royalty deal but 80 per cent of titles are purely and simply bad conversions from arcade machines, where the sound and graphics are just copies and ported and then glued together with aerial quik coding. The only cost for this sort of production is the licence fee and the retail deal to port the code from the ST to the Amiga.

I hope this isn't too bleak for you 'cos this is the way it is and the way it will stay. No protection can't be cracked.

One of Many, *Leicester*

WELL IT seems I'm wrong already about uncopyable CD being the solution. If two of the main sources of pirated games are developers and duplicators, which I can well believe they are, it would appear any master code will be distributed irrespective of its final format. Also it looks like we're dealing much more with organised crime here rather than just some schoolboy cracking and swapping.

Reading between the lines, I reckon there's under the counter payments changing hands - programmers taking the profit directly from pirates and cutting out their publishers who will have already paid them an advance and some form of monthly salary. Not a lot more one can say really is there?

HOW TO GET RICH BEYOND YOUR WILDEST DREAMS...



• It's overpriced little yellow junk that make you are million pounds very easily. All you need is one *Woolworth's* shop. £1,999.000 in spare cash and a billion lot of sticky tape.

1 I've actually developed one of those 'get rich quick with your computer' jobs that really does work!

All you have to do is to go down to your local *Woolworth's* and buy the Start Up single for £1.99. You then stick the cover over your monitor with sellotape and play the record, thus saving yourself at least £1.01 on buying the three-disc public domain sampled version.

If you do this 1,000,000 times you will make the amazing sum of £1,000,000 - enough to put away other scam to shame and make you very rich indeed.

Neil Bignell, *Don't*

2 Here's a great idea for fanning all the time you spend in front of a monitor into a bootstrap way of becoming an overnight multi-millionaire. All you do is cost your local disks with socks as they'll spontaneously combust when in contact with the disk's red/wire heads and destroy the contents of your house. Then you sue the disk manufacturers pleading loss of property, health and sanity. Simple eh?

John Symes, *Victoria Hospital Durs*
(not Woburn, Herts)

ERRR...YES Do any other readers have simple, yet wonderful, but sensation lullies to offer?

A Poser

SOMETHING to investigate 1
1) NCE 130, 2 May 1991, page 55,
column 2, paragraph 2.
"Then we chanced on a stroke ill
John Gold, the Saab driven by John
Gold, turned out to be registered to
an Elizabeth Gould-Muller, resident
in Queens Road."
2) Computer Weekly, 2 May 1991,
page 6.
"Police 'guilty of systems abuse'.
Police officers are still abusing the
Police National Computer, holds
confidential information...
registration data on every
motorist." Discuss.

Gavin Syme, Edinburgh, Scotland

Oh no!

"NEW COMPUTER EXPRESS
STAFF IN SHOCK POLICE
BRIEFING CASE!"
Read all about it in this week's
Sunday Sport
Steve Browne, Kingston, Surrey

A GOOD point on which to start a
debate, but Express didn't use inside
sources to ascertain the registration
information in question. The real data is
public domain and can be gleaned quite
legitimately - with a little ingenuity. I
don't want to pretit the details though -
we'd start getting complaints from private
detective agencies left, right and centre.

Big piles

I WOULD just like to say that NCE
is very good value for money and is
very informative. I don't know if
other readers experience this, but I
find it difficult to throw the mag
away when I have read it, so I have
a pile about two feet high!
James Smith, Stockport, Cheshire

WELL... just how big are other readers'
piles? Send in photographs and we'll
print the largest! (Are you sure?) - Ed

Shuttle shock

IN ISSUE 130 I was outraged by an

On-line mail

Our computer magazine is online
Express has a new computer magazine
online and it's available to read online
at www.express.co.uk
You can also find it on the net
at www.express.co.uk
Read it and let us know what you
think! (We'll be happy to hear from
you!)

article for Virgin's shuttle
simulator or rather the photo and
the caption for it. It's disgusting
that your magazine should treat
such a disaster so lightly after
taking such a moral stance on
pirating software to legally rule
what I like! I can see why I'm heading
for one of the largest libraries ever
to grace these pages - (H-W) -
credibility you had by making fun
of the shuttle disaster. I, for one,
am absolutely disgusted with NCE
Jan Hurst, Wigton, Lancs

OK, OK. I agree the caption was in bad
taste. I suppose I also went over the top
last week by printing of those crap jokes
about the shuttle disaster. But then some
people find black humour funny. Mind
you, others would say it's merely the
pitiful response of a sensitive mind to
honors too massive for it to fully
comprehend. Take for example... err... no
you better not.

Sam update

I'VE HAD a talk on the phone to
Alan Miles about what you said
last issue. He says that not only is
what you said complete rubbish -
you've had a SAM for ages - but
also when SAM computers were
converting you a couple of weeks
ago (and proving that the IBM
problems were non-existent by
demonstrating their sequencing
software) and were asking you to
write a column on the SAM in
preference to theirs continuing with
the SAM hotline, NCE actually
asked them if they could name a
reviewer - and you were - no this is
definitely the longest column ever
to grace these pages - (H-W) saying
that they were forcing you to use
their people to review the Cough in
the first place!

Simon Cooke, Sale, Cheshire

BLOOE. Firstly, we were given a SAM for
review ages after the original launch and
when it arrived I didn't work. Secondly,
Alan Miles is the one who's talking
rubbish. Thirdly, the editor asked Alan to
suggest a columnist from the various
user groups and fanzine circles he knew
of and fourthly, Express decided not to
run a column because it wouldn't
generate enough interest. Think about it
- I just can't see why they should want
to pass over a hotline which they claim
brings in 1,000 calls each week at a rate
of 33p and 44p a minute. Can you?

PC Plodding

FURTHER to your request for
multiple sightings of PCs on
television, I feel sure I must win
tensads cash as I have spotted
literally hundreds of PCs during

the course of the last month. The
TV programs were Inspector
Morse, Taggart, Prime Suspect,
The Bill, The Chief, 10 O'Clock
News, 9 O'Clock News, 6 O'Clock
News. As well as PCs I spotted
Sergeants, Inspectors and I think
we got the picture - (H-W)
D.Macdonald, Bolton, Surrey

A droid writes

IF HUMAN intelligence is so
superior then how come you
managed to spell my name
wrong? Anyway, my digital image
scanning is obviously superior to
what passes for caplan
observational abilities because I
seem to be the only being to have
noticed my soul bro 'DARYL' on the
box over Easter. Playing not one,
but two games simultaneously on
an Atari 8-bit (Pretel and Wizzle
Command). It's nice to know that
at least somebody has taste

The Android, Rhyll, Croyd

WELL SPOTTED ME old' droidy
churning, but answer me this - how can
anyone, irrespective of their degree of
digital consciousness, play one game
simultaneously? Don't tell me - he has
the same game playing at two or more
machines right?

Betamax 2?

WHAT'S all this fuss being made
about CDTV? Everyone who is
anyone realises that as soon as
Sony gets its marketing people
into gear and its CD-i product fully
developed, Commodore's attempt
at multimedia will vanish into the
realm of Betamax and Video2000
Martin Roberts, Kintyre, Scotland

OK Martin but just remember Betamax
was a Sony format wasn't it?

Just send cash

WHEN YOU unceremoniously
dumped all of the 8-bit columns, I
like many of the other thousands
of 8-bit readers, stopped taking
your purple rag. Several months
later I have to hold my hand up
and be content. The XE now lives
in the cupboard under the stairs
with the tent and kayak that we
never use and an Amiga takes
pride of place on the desk.

Your about 8-bit ball left me
frazzled and then determined to
do something about it. Time
doesn't stand still so I'm now a 16
for now 32 bit 32 bit. Without
Express's help I would still be in
the dark ages

Jack Sparrow, Wincoburn, Cheshire

WRITE A LETTER AND WIN A GAME SHOCK



WE'RE NOW in our fourth week of giving
away free full price games to the best
letters we receive and our first winner
should be receiving their prize right
now. This week there's another full top
prize to be won so you should actually
get round to spending the game you if
you do win should you want the greatest
letter ever received in the history of
Express this week!

So look for the top digital
prizes for this week

- 1. A JAGGED - EMERG SOFTWARES
superbly made leading shoot-em-up
adventure
- 2. A STAR ST - VIRGINS rescue HQ
- 3. A COMMODORE 64 - MADE WORKS
Puzzling Star
- 4. A JAGGED - EMERG SOFTWARES
superbly made shoot-em-up
- 5. A PC - MCGRAW HILL
to get wrong in anything under the sun
and was powered a long game!

THANKS Jack, should you, or any other
reader, wish to nominate any of the
Express team members for their
enlightened advice, just a cheque to
NCE Editorial, Commodore UK,
Maddenhead, Berks.

DIY VR sims

IF EVERYONE who read NCE took
notice of what you say, we'd all be
using Workstations, Virtual Reality
Simulators and 3D Laser
Holography for entertainment.

Get a life. People don't have
the cash or the desire for those
Ferraris III the digital world. Stay
with bread and butter subjects. We
don't want expensive toys to look
at. We want realistic things to buy
and make.

Stuart Kennell, Haffar, Herts

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for you...



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AMIGA

AMOS COMPILER IMMIGENT

Fans of Mandrake's wondrous games creation package AMOS will be pleased to learn that the compiler will be with us in a matter of days.

To be published under the new Euronics Software banner (phone 0579 078988), the compiler promises to turbo charge your AMOS programs, typically doubling their speed. Speed isn't the only advantage, however, because your AMOS programs will be turned into super-fast machine code, there's no need for the old and trusty AMOS runtime system, therefore allowing you to produce programs that are truly standalone.

At the recent European Computer Trade Show, Euronics was also showing off the first real extension for the AMOS language, in the shape of the much talked about AMOS 3.0. It's been previewed more times than the CDTV which is really going some, but it seems that we may well finally get a chance to add true 3-D graphics to our AMOS programs.

The package (which comes complete with a dedicated 3-D object editor) claims to allow anyone to produce games like StarGlider in AMOS. Personally, I'll believe it when I see it.

JAGGIE-FREE POINTS

Zen Computer Services has launched a new package which is sure to be of interest to anyone involved in desktop video on the Amiga. Called *Amiga (great name isn't it!)*, it's a powerful font enhancement utility that smooths out the jagged or standard Amiga bitmapped fonts, therefore making it ideal for producing professional looking video files.

Just like the font scaler utility distributed with many Gold Disk products, *Amiga* can produce as little as different scaled down versions of any standard Amiga font, emulated using four brightness levels. This also automatically converts the fonts to a colour format, so you'll need a colour-compatible package like EA's DeluxePaint 3 if you wish to use them.

The package allows you to produce point sizes up to an impressive 302, although this kind of operation will require large amounts of memory and

processing time. Zen recommends a processor accelerator and at least 1Mb of RAM, though these are not a necessity. *Amiga* is available now from Zen for just £40. You can reach the company on 060 793 1931.

SUPER ECS BOON

If you thought the Enhanced Chip Set was the best news, then settle in for a shock - Commodore is already working on a vastly enhanced chip set that will push the Amiga's capabilities still further. OK, most of us still don't have the current ECS (even on Commodore, get your act together), but that's no reason for Commodore to rest on its laurels. No more, Commodore's research and development people really seem to be getting down to some serious work.

During an interview published in a well known UK monthly Amiga magazine, Commodore's headhonor, Irving Gould, revealed that a new chip set is in the works. When questioned about its capabilities, he went on to add that the new chips would add 'more going in the colour', including such things as extra colours (let's face it, the Amiga needs them) and even more chip RAM (would Amiga be too much to ask?).

Exact specification-type details were rather lacking (Gould himself admitted that it is no techie), but he assured us that Commodore is committed to 'staying with the state of the art'.

BOOKS FOR BOFFINS

If you're after a good read that will teach you a thing or two about the Amiga, then look no further than a couple of home-grown books from prolific book publisher, Bruce Smith Books (phone 0727 412431).

Once he pulled together some of the most experienced and certainly some of the most knowledgeable Amiga journalists around, including such well known names as Mark Smiley, Phil 'Snuffy' South and Paul Andrian Dvorne. Those of you who study the manuals will have no doubt seen work from these writers; they contribute on a regular basis to such publications as Amiga Format, Amiga Shopper and Amiga User International.

GAMES FOR JUST £3!

If the recession is finally starting to bite, then take comfort in the news that Prime Leisure has launched a new range of 16-bit budget software. OK, nothing special so far, but the good news is the price of the games - just £2.99. Just think, you can now buy commercial games software for the same price as PD software!

If you'd expect, none of games offer particularly ground breaking material, but there are a few bargains to be had. Initially the range consists of 15 titles, all of which were previously sold for considerably more than their new asking price. These include such classics as *Kevin Tams* (what ever happened to him?) *Football Manager*, *Amiga Mouse Trap* (a great little platform game), *Great Dya* (not another platform

game in the *Music Mixer* mode), *Karling Grand Prix* (a very cheap and cheerful Superdread client), *Las Vegas* (a hot machine game) and *Plutos* (a totally self-wrecking shoot-'em-up).

Happily more companies will follow Prime's lead, with more (and hopefully better) software being made available at what is undoubtedly a remarkable price. With leisure software having such a short shelf-life, it seems only logical that software companies can maximise the sales potential of a particular product by re-releasing it into the budget sector. It is tempting for these companies to sell budget titles at the current £2.99 price level, but (while being cheap for 16-bit software) this is still a far from ideal price.

Many of Bruce's Amiga specific publications are very much still 'in the pipeline', but two have already been released. Both written by Mark Smiddy, they are *Mastering AmigaDOS* volumes one and two. Volume one costs £21.95, but you can also obtain a free diskette which is packed full of useful utilities and source code for many of the examples given in the book based on the old typing legend, don't you know? The second volume costs just £17.95, but it's just as thick as the first (over 300 pages).

Volume one starts off with an introduction to AmigaDOS, looking at such subjects as how

directories are structured, how to move around a disk and a basic introduction to the line art of working with AmigaDOS commands. The CBI command gets a damned good going over, with successive commands receiving pretty much the same treatment! Then it's on to such subjects as the AmigaDOS shell, wildcards, file protection, environment variables and a lot more besides.

Volume two (which was actually written before volume one) is a complete reference to the AmigaDOS command set that covers both 1.3 and 2.0 of the Amiga's operating system. Everything is laid out in a clear, no-



*Does the Amiga's command line interface confuse you? If so, then the Mastering AmigaDOS series of books is for you.

confusing fashion that will allow you to find out what you need to know in a matter of seconds.

I've seen a fair number of AmigaDOS references guides in my time. Indeed, I've got a shelf full of the damned things but none go as far as these two books. A lot of it may seem rather too basic at first, but as your skills progress, these books will come in handy. Whether you're just starting out with AmigaDOS, or you're a seasoned CLU, the *Mastering AmigaDOS* series is a recommended purchase.

Jason Holborn

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MIDI MUSIC SHOW

Anyone who took a stroll around the recent MIDI Music show, would be left in the doubt of the ST's dominance in the MIDI market. On practically every stand the show an ST could be seen controlling synthesizers, hardware controllers, drum machines and sequencers. This dominance is all the more impressive when you realise that only two other machines were on show for the stand: a Macintosh PC and a (poor) Amiga game machine.

There was a gorgeous array of new software and hardware launched at the show. In fact, nearly all the stands had some new package on show for the first time. *Exposure's* sister magazine *ST FORMAT* was sharing a stand with *Mani Shoff*. On the stand was the first public showing of the brand new *Mega STE*. This was running version three of *Clab Notator*, which was in turn, controlling a Yamaha SY77 synthesiser. What's more, the *Mega STE* was multi-tasking via *Clab's* Softlink package. This was a timely reminder to the few Amiga owners who showed up, that the ST can multi-task just as well as any other 16bit machine.

The Syntex or Audio Visual Research stand were demonstrating what could well be one of the best pieces of hardware at the year. They 16 bit sampler can operate at frequencies between 1600Hz and 44.100Hz, the latter being CD quality sound. What's more the software has been completely rewritten to include true wave file access and a plethora of keyboard shortcuts. The hardware's

been modified so that it now operates at 64 times over-sampling on input and four times on output. At £300 this is a professional sampler at a ridiculously low price. A/R is on 0952 457348.

The School of Auto Engineering was touring its ST-based MIDI courses. This company, which has been around for 14 years, specialises in guiding students through the murky waters of MIDI via hardware equipment. There are three MIDI courses: basic, intermediate and advanced. The former deals with such subjects as 'principles of MIDI' while the advanced course covers things like 'interfacing pre-MIDI equipment'. Prices start at £75. Telephone 071 609 2653.

Intensound is an Italian company which has just released a package called *Sample Touch*. This program enables you to keep a database of some 18,000 samples. Snapshots of the sample itself can be played back through a monitor and the whole wave can be edited in memory. The program works with S-1000, W-30, S-550, S-330 and S-500 samplers, making it extremely flexible. Intensound is in Italy on 0039 01/1 684646.

GAITS UPDATE

Gaith, producer of the *Sequencer One* software, announced an update of the popular budget sequencing program. Called (wait for it), wait for it! *Sequencer Five*, Gaith promises that it will include conventional notation editing, event list editing, simultaneous multi-track recording, as well as bulk handling and better note editing facilities. The release

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Lemmings, probably the world's most addictive computer game, marches onto the ST.

date is pencilled in for the autumn.

The team also launched The Hit Kit, a new music composition program which helps a novice to create drums, bass, sequenced patterns or even complete pieces of music. GEMs are on 061 236 2515.

Plusnet has single hardcopy revolutionised hard disk recording by releasing a very budget version of its popular recording/playback medium. The Adam system works with any new ST and can be used in conjunction with C-Link or Starling's sequencing software. The basic package costs £839 for the hardware and controlling software, while the Dat VO board costs £359. DAC, the British distributors of the package, is on 0784 462175.

Digital Music was demonstrating Amixbox and Prologix two revised modular sequencing programs. Amixbox, the more expensive package, is a multi-tasking sequencer which can operate up to 99 tracks. Music is on 071 586 3445.

DON'T BE A LEMMING

After a slight wait for the ST version of this game, Irvine's serial Playgods has released Lemmings to an eager ST community. If you haven't heard about this highly original game, then a brief synopsis might be in order.

The idea of the game is to guide a hundred or so lemmings safely to a gateway. On the way there are a number of hazards, such as big drops, flames, water and spikes. The lemmings aren't directly under your control. However you can tell individual lemmings to perform tasks, such as redirecting the traffic, exploding (yes really), digging and paralyzing. This you can

drive your lemming army to the gateway at the end of the level.

Lemmings plays like a dream. It really is a frantic game, which has deprived me of more than a few hours of precious sleep. You see a side-on view of a landscape which can be scatted left and right via the mouse, then little furry chaps start dropping from the skies and you're left frantically stacking traffic, warden lemmings on guard. On occasion the scenario looks so simple that you think you've got it right first time, but trying to get these blithering lemmings to do anything right is like trying to direct the traffic around the Arc de Triomphe.

Constructing a tricky level of Lemmings is comparable to passing your driving test. The worst that is if you a busy person, accept all the game is an addictive quality. This is a side of games design which will often lead to polish. If you're taking some exams in the near future, don't buy this game.

DON'T BE A LLAMA

A little footnote. If you turn to the Public Domain section of this great organ, you'll discover a review of a shareware game called Lemmings by Jeff Miller. Having received this game myself I can only say, go out and buy it yesterday. When programmers like Jeff get so discouraged by the whole computer games industry that they have to resort to shareware, you know there's a problem.

Apart from the game's massively addictive qualities, it's a gem. Smooth, rapid graphics, crisp samples and gnarly humour make this an all-time classic.

Andy Hutchinson

C64

ASHES TO ASHES?

Recently, it seems that a week cannot pass without a 'controversy' in the world of the C64. This week it is the millions of a price call for the C64GS, which, if true, could only quicken the demise of the 64.

Looking at the situation realistically, could Commodore have dominated the console market with the GS? Technically it has the edge over the Segas, but having been launched on the back of another machine's successful public in conception. Don't hurt me and sell your GS right away - the price out will undoubtedly increase the user base (and popularity) tremendously, but if other consoles go from strength to

strength, the GS only has a couple of years left to live. If and when it does disappear, it will not have been in vain - it started up interest in cartridges, which will no doubt prolong the life of the 64, even if they are too expensive by half. It all appears to be doom and gloom at the moment, but I look at the situation another way - when the Spectrum market disappears, THAT'S the time to start weeping.

A GOOD RINDGE

I received an interesting and lengthy letter from Paul Dwyer this week - thanks, Paul! He had some very strong points to make about Commodore, the demise of the 64, and the ubiquitous

OS. His letter dwells on the subject of the cartridge/cassette/disk struggle, and highlights that the price of disk drives should be brought down in order to inject some life into the machine (and indeed to provide the cartridges with some sort of 'competition'). He also states that if Commodore continues to attract programmers from the C64 to the Amiga, there will be few reputable programmers left and subsequently the quality of software will deteriorate rapidly. Eventually, he adds, the C64 market will consist solely of budget games and will ultimately 'stagnate'.

Kid points, Paul, but there are hundreds of competent programmers/artists/musicians out there just waiting for their big break. I wouldn't worry about software standards just yet.

Finally, he gave a few suggestions on how to improve the column - not assured, I've taken some of your thoughts on board. If you have something to get off your chest, or if you have any other ideas, criticisms and the like, at them down and send them to: Andrew Roberts, New Computer Express, 20 Monmouth Street, Bath, Avon, SA1 2NW.

A TO Z PART 2

Alright, you've been desperately counting the days for this week's column so here it is... the first part of the A TO Z of essential games.

N-Nebulus (Newman) Probably the most original game concept ever, this cutsey platform game can shoot-em-up provides lasting entertainment. Frustrating, but fun.

O-Octopole (Enigma) This was labelled a Saturn clone when first released, but the similarities are only minor. The game also boasts a challenging (and technically excellent) vertical stage, adding to the immense playability.

P-Paradox (Ocean) Software always delivers the goods; fast and furious action across five superb parallax backdrops. There are also some neat puzzles in there, but what really shines is the epic 15 minute soundtrack - awesome!

Q-Quader (Thalamus) Possibly the only decent game beginning with a 'Q', this 10 stage puzzle game is a tough test of skill and co-ordination. Silky graphics and bouncy music accompany the taxing gameplay.

R-Retrograde (Thalamus) The largest collection of supercannical ever sent! The seven levels combine frantic horizontal stages with tricky vertical ducts, each one followed by a gargantuan midscreen. Original graphics... funky music... a superb shoot-em-up.

S-Slap Fight (Imagines) Quite unusual, the graphics are adequate, the sound amazing, but the game itself is totally compelling! Fans of the arcade original will love this conversion. It's difficult, even snarled in places, but keeps you hooked for weeks.

T-Tetra (Silversoft) Other cloning of the utterly splendid concept (Wellio), and some bowlers near to matching the genius of this game. Stunningly simple gameplay is the key to its lasting appeal.

U-Up'n Down (US Gold) One of my all time favourites... seriously it is a truly 'lovely' game, with great graphics and a hilarious tune. Difficult to track down, but if you've got it - hang on to it. A classic!

NAME THAT TUNE



Here's a little power for you. What's the connection between Robotrap and a washing machine? Putting aside any level comments about water habits, the actual answer is that the music which accompanies the latest Amiga washing machine advert is the music from the title sequence of the Robotrap game. Don't ask me why. Just send in your suggestions on the back of a used £20 note.

V-Vendetta (System 3) An interesting Mega variant boasting some wonderful Disk! graphics. The racing stages serve to enhance your enjoyment, while the puzzles are well paced. Oh, and who can forget the incredible intro! I nearly did...

W-Wobbel (Ocean) This game seems to defy definition - is it a shoot-'em-up, or a puzzle game? Well, it's a bit of both, original and fun. A whole host of player combinations, original (and colorful!) graphics, plus some beautiful Galaxy tunes. They don't make 'em like they used to... pity.

X-Xenious (US Gold) Underneath the appalling aesthetics hides a really playable game. Possibly, it is faithful to the arcade original right down to the last blade of grass, but lets itself down as a full-price game.

Y-Yo Yo Kang Foo (Imagines) The first game from the reputable Collos/Midco/Galaxy trio, the game is frustrating beyond belief if you persevere, there's a thoroughly entertaining game in there somewhere. Graphics are accurate (and move FAST), and the Amiga title screen here is brilliant.

Z-Zak McKracken (US Gold/Lucasfilm) I'm lost for words. The amount of detail in this game is incredible. A superb, if bizarre storyline, detailed graphics, instant playability and hysterically funny. Disk only, but worth it just to see the exploits of these stupid Alan Madpanders!

So there you have it - 26 of the best C64 games ever. Of course, it's all a matter of opinion and personal taste, but I have tried to include a vast assortment of software to please all of you. If you're not happy with any choices, drop me a line and say so.

COMING SOON

Finally this week, a few things to look out for over the coming weeks... Many Seaks has finally arrived, having been held back (happened) as a result of the Gulf Conflict. It's in the shops now and what a stunner of a game it is!

The Famous Fret from Enigma Variations is a very rare rock-logane conversion, so steer well clear. From Domoware comes DWWP, a fast and fun arcade/puzzle game, featuring some scarily clod giles (Burr, Brent).

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Here Quest is one of this year's better RPGs. It doesn't follow the plot of the original board game exactly, making it a refreshing challenge for even the most ardent role player.

Lost but not least is Predator 2, an

out and out blast in the mutated tradition of Operation Wolf - loadsomeless. Fans of the film will simply adore it, and rightly so. It's great entertainment.

Andrew Roberts

CPC

AMSTRAD CHOPS SENIOR POSTS

The big news this week is Amstrad's announcement that 25 of its staff are to be made redundant. The majority of these, 21, will leave effect at the company's Brentwood headquarters, while the rest of the jobs will go to various other sites around the country.

Big names on the way out include the managing director of the Amstrad UK division, Barry Young, and Peter Roback, Amstrad's software and peripherals product manager. Roback was the leading light behind the OX4000 and Plus machines, although his departure is not being attributed to the poor performance of these machines - he's short on Christmas.

Amstrad is blaming the general economic recession for the redundancies, pointing out that many other companies have had to make similar cuts. Amstrad's main board, headed by Alan Sugar himself, will now take over UK operations.

Meanwhile, there's some speculation at the moment about possible new deals involving the OX4000 and Plus software. Arep watching this space.

NAVY SEALS

A game about terrorism in the Middle East probably isn't in the best possible taste, but since when have software publishers been bothered with taste? Besides, Ocean's latest cartridge game is a licence of a film. What, you've never heard of Navy Seals the film? It's not surprising, it went down like a lead balloon in the States, and there are apparently no plans to put it on general release over here.

The film followed the exploits of a band of American special forces types, a bit like the SAS. SEAL actually stands for Sea, Air and Land, and it's nothing to do with those black rubbery things they have on.

There are six levels to the game, each taking place at a different location.



* Athletic build, aren't they? Don't fall off, or you'll be going home in a hot flash...

It's pretty standard platform/shooting action stuff, but the console hardware has been used to really good effect to provide excellent, atmospheric backgrounds, smooth scrolling and interesting detail. Your main job throughout is to explore each level and plant bombs or top of crates packed with stolen military hardware. There's not much of an art to this - in fact, you simply have to walk onto a crate to plant your explosives. Your main job is going to be killing leeches and dodging enemy fire. One good thing is that once you shoot one of the enemy, he doesn't respawn if you finish that sector later. Just as well, as the game is tough enough as it is.

What makes this game all the tougher is that you are up against a strict time limit. Even so, at least it is extremely tight, so you're looking at a game that's going to last you a long, long time, just as long as you don't give up with level 6.

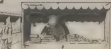
You control a five-man team as you embark on your quest to save the hostages (ah yes, we've forgotten about those, hadn't we? Ahem...). These five men effectively make up your store of lives. When one goes his dogs the next three go.

Your men are all very athletic, carrying five overdeveloped pectorals from platform to platform, and generally looking hard as nails, but it only takes one hit from an enemy bullet to kill



* Navy Seals: You can pick up extra weapons from crates lying around the levels. Here, you've found yourself a juicy little flamethrower...

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them. And falling too far from a platform curls up their livers bright too too.

That, typically, is about it. Navy Seals loves excellent, it plays well and it's presented beautifully. If only it wasn't so difficult. Either Ocean's playstations are too good, or I'm getting old. (Don't answer that!)

TRAITOR!

This letter from Phil Morley of Peterborough is a bit outrageous, but I'll put it anyway because there may be something in it for all you Amstrad owners out there.

"This is your last chance, lovely 6128 owners (one of whom I used to be). I have thousands of 6128-specific magazines chock full of gripping 6128-specific info piled under my bed awaiting the owner's yard - Warrin. Amstrad Computer Users, Amstrad Action is valuable and much to be had at knock-down prices.

"Your salvation will be anyone offering 50p or thereabouts a copy - buy in bulk, save money. The room is bright orange overall will come to take in any way soon, so the mice have no room for their wrestling matches under my bed.

"We jokes aside, I have an enormous database of 6128 subjects, so if any of you discerning readers has a specific query I can probably find a mag with an article covering it.

"I will send a list to anyone who

phones me or writes to me. I have own a PC and can be found lurking in the pages of PC Plus."

Well there you go. Write any old mags? Looking for an article on some weird and wonderful Amstrad-related subject? You can reach Phil at: 11 Kingfisher Road, Witley, Peterborough PE7 1YF, or call him on 0733 204534.

GARFIELD GETS A POKE

Well, he does in Garfield's Big Fat hairy Deal, anyway. Garret Ryan from Milford supplies this tape chock to stop the furry fellow falling asleep.

- 1 "GARFIELD'S BIG FAT HAIRY DEAL"
- 2 "BIG GARFIELD FLOWN 1.3.93"
- 3 "TAPES" STOPS HIM FALLING ASLEEP
- 4 "
- 10 DATA 21,24,26,11,24,22
- 20 DATA 31,33,43,44,38,23
- 30 DATA 34,36,28,37,32,23
- 40 DATA 24,31,36,29,32,36
- 50 DATA 16,23,19,36
- 60 MONKEY STUFFING/NOIS
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- 110 CLOS. 00000

Red Lawton

SPECTRUM

PACHYDERM PACKAGE

Cord Masters can always be relied on for cute and scarily cuddly budget games featuring wacky characters we all grow to love. Indeed so it was no surprise to receive C/Z Elephant Antics, the company's latest bid for £2.99 fame and fortune.

C/Z the elephant is a really driven fellow who you have to guide back to his home Africa through the usual bad-tempered crocodiles. Luckily anyone blocking your way can be dispatched with a well aimed pistol fired by C/Z although that will leave a variety of hazards to threaten.

our long noted standard breed, including snake, rather nasty spikes.

For a lot of reason I'd rather not have to explain, each level is set in a different country and the graphics, which employ nice splashes of colour throughout, reflect this. Also worthy of a mention is the two player mode, you each control a pachyderm and work in cooperation.

C/Z's Elephant Antics has a COTD drive just one more good factor as you work out how to get by seemingly impossible obstacles. Basically it's cheap, cheerful fun and (in case C/Z the elephant should be the star of a fair few cheques to come.

SD FOR PLUS II

Fabulously nice titles that you own Plus II or Disciple disk systems for their Speedy should check out SD Software's catalogue. As well as Uno/D25, the ROM replacement package (we told you about loads of times before), the package also has a veritable cornucopia of all available on disk for Plus II.

First off there's BUL, a supposedly 'intelligent' disk cover for £4.50. Designed for use with G245, BUL main data to directness is that it can manage incremental copying. This

meets BUL which backing up disks only files that have changed since the last backup are copied. This reduces the number of incremental disk swaps needed.

SD also sells Fax Converter, a specialist program that converts BDTV files into BASIC, COPE, OPENTYPE or DATA type ones.

You can use it to convert Taproot ROMs and OCP assembler files. It costs £5.30.

Hackers' Workbench (£5.99) is a utility that allows you to examine, list, alter, move, print, load, disassemble and generally mess about with 48k/128k magazines. Sounds rather good and is apparently a boon for the experienced programmer.



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LASER/INKJET PRINTERS

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Another supplier of cheap 3 inch disks has been located. Thanks to Bill Hyball of Kent for telling me about Disc Byline (Tel 0474 567264) who sells the 1000's of disks of plastic at reasonable prices. You can get 10 3 inch disks from them for £7.50 or 50 for £32.50. Good luck with the word processing, Bill.

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THE PRICE IS WRONG

I've just re-established contact with Mark Harris, formidable trader and a faithful old regular at this column. He wants to mean about software retailers and says Tony Norton and Lyn Foulds-Wood weren't available he decided I'd write to me instead.

The problem started when he ventured into a well-known high street store to check out the Specsby mail on offer. "I was shocked and bloody well disgusted!" he told me. "I'll write."

"They were trying to sell him some extras which they had for ages and of these included the Plus 2 for between £10.20 and £11.20. They even had the check to put another 50 on budget games. Now granted the VAT has gone up but I still don't think it's right to put it on old games, especially budget ones that have got the RRP printed on the cover."

"If we Mr Smith's mode of business relies on peddling in legalised piracy," he concludes, he goes on to praise Software Plus, an independent shop in Canterbury, for its low prices which are now VAT adjusted.

Although I don't think I'd go quite that far, Mark has a valid point. Maybe it's best to stick to smaller independent shops where buying software. Generally I have found that the service is better, the range is wider and, as Mark found, the prices are cheaper. Support your local independent computer shop!

found, the prices are cheaper. Support your local independent computer shop!

MIG POKE

More opportunity for you to cheat this week with lots of games kindly provided by Alan Jones. He's coming up with a routine for MIG 29 Simulator which you'll need 80 bytes in, save for joystick, RAM and then start your game tape from the beginning to get working. Thanks Alan.

10 ROM BY ALAN JONES	
20 MIG KID 20 JIB	
30 CLEVER 454241 180 7-01 180	
40 FOR PHASARS TO 85533; ROAD	
A-POKE 7-A	
50 LEO TWENTY-ONE NEW-1	
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1 OVER 1-1 JEWELL	
1 "SABOT" CRIBBIE 01 FLAME	
1 OVER 01 "C" FLAME	
1 "DANTA" 2P	
70 DATA 243, 45, 0, 8, 221, 3, 8	
80 DATA 64, 17, 229, 193, 62, 255	
90 DATA 55, 205, 06, 5, 45, 0, 0	
100 DATA 212, 203, 255, 42, 36	
110 DATA	
58, 213, 167, 195, 196, 193	

Robin Away

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ARCHIMEDES

MIG 29

Dorank has released the Archimedes version of Mig 29 Futurum, its successful PC and 16-bit game. But any Arc player will find a change of familiarity as the game unfolds. This is no straight conversion of the Amiga code. The Arc game is closer to being Archimedes II than you might think. In form it's a standard flight simulator, giving either an easy-to-fly plane or a close simulation of the latest Soviet fighter, the supersonic Mig 29. Patching is good, with a chunky manual that helps with software protection too; you have to type in a word picked at random to fire up the game. Having an unprotected disk is a bummer, as you can get the lot on a hard disk if you want.

Once loaded, you can choose one of several missions: photograph a submarine, blow up an oil rig, assault a group of enemy fighters out of Soviet airspace and so on. But adding on the runway is where the dips we sets in. The game code is written by Simco, author of Claves' Archimedes, and Mig 29 contains the same 'core' of routines—the artwork, model and the display system—in its predecessors. There's new scenery, obviously, and new

performance data for the plane.

The controls are complex, spread between a mouse and keyboard, and given that the game is so much like Archimedes, a clear mapping between the two might have been a good idea. Mig 29 follows the original Amiga control layout, which means there's nothing to do with the Select button on the mouse (the Amiga has a two-button mouse). It would have been better if you could use the mouse to control the engine noise, rather than using the 'x' and 'y' keys.

Although there's a points table for different pilots as they conclude each mission, there's no way to save the game with a mission half finished. The cockpit display is more flashy but less informative than Archimedes', but then again, I think you'll all need it.

The two games are both based on the same artificial code, so there are only minor differences in crucial things like the amount of ground detail and the flame rate. The scenery is the same green carpet plus cyanised hills.

So why is Mig 29 a much better game than Claves' Archimedes? A complex question, but here are the answers. There is a particular excitement of flying a real plane,

THANKS FOR THE MEMORIES

It's often said that the human memory can only bear seven things to mind at once. For Atari's 2600 and 4000, even that could be a gross over-estimate. Unless you do nothing other than play *Mad Professor Mariani*, you need that extra memory. And now is nothing other than time. Even *Klein* itself has reduced its memory prices.

Upgrading an Atari 2600 to 2600 has never been cheaper. It should cost you less than £10 from any number of well-known suppliers. The right chips for a 400 can be had for as little as £55, though your thumbs don't hurt when you play them in.

Intellivision's model is *Exotico*. The adversary aircraft in *MIG 29* are real too – the Harriers look remarkably like Harriers and take off vertically. Missiles fly very fast and low over the desert, and so on. The scenario is better: there's a variety of missions, which are given a little background and context in the mission, so you know why you're fighting off strange Chinese fighter planes over the Great Wall.

There's also a couple of new ingredients. The missile targeting system in *MIG 29* is more complex: you have to 'lock on' the air-borne and air-to-surface missiles before firing. Enemy planes often get away, too. In *Intellivision*, when the chime for missile lock goes off, you know you're going to hit your target.

The enemy pilots in *MIG 29* are a lot more unpredictable than those in *Intellivision* who have very poor tactics; you can often predict exactly what they are going to do.

Intellivision only gives you 'out of the cockpit' views, but *MIG 29* adds a really spectacular 'close plane' view and the view from the control tower. You can also sneak a peek at what your opponent can see, and get a 'Shannon Norman' missile's eye view as it streaks towards its target.

MIG 29 shows just what *Intellivision* 2 could and should have been. With a 'raw' facility as well as the pilot's score table and a better control layout, it would have been near perfect. As it is, *Intellivision* still has a deserving winner on its hands. If you like tight turns at all, go out and buy *MIG 29*. It's almost worth the £10 you'll have to pay!

Domark is on 081-750-2224.

LASER PRINTER UPDATE

Caligraph and Computer Concepts both continue to upgrade the printer driver software for their respective standard resolution (300dpi) direct drive laser printers. Both the latest versions show minor speed improvements.

Computer Concepts's Laser Direct remains faster overall, particularly with

its 'quickstart' software option. It is thicker too, with printing 'in the background' so that you can get on with something else while your printer's still churning away.

Caligraph's machine has always led on the 'fussy features count', and one important new one is the quality of the grey scales. The current software gives you a choice between three greys (64 is normal, or better quality grey tones at the expense of lower greys. Choose 16 greys – perfect for printing sorted – and the quality of the printing comes close to Computer Concepts's Laser Direct lines.

The original price difference, which had made Caligraph's machine such good value, has all but disappeared. Both cost close on £1,150 inclusive. My choice would still be the Computer Concepts version. But if you're a first word Postscript, or if you have a network, it could be time to look at Caligraph's *Artisan*. Its Epson emulation allows it to be used from BASIC or First Word Plus. Computer Concepts is adding a similar feature to its driver too, but Caligraph does have the lead. On a small network, the *Artisan* can be shared by several terminals, although saving less up the network completely for a few seconds, you don't need any extra software. Computer Concepts' network printer demands a copy of its PostScript clone *ShowPage* (around £200) on the Arc with the printer.

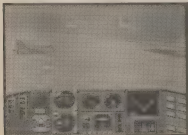
At the current prices for these 300dpi machines, Computer Concepts's Laser Direct II Res (plus £470 for VRT) plus a Canon LBP-4 (with a sheet price about £800 if you shop around a bit) looks to be a real bargain. For just a tad more, you might as well invest yourself to 600dpi.

Caligraph is on 0223-461143, Computer Concepts is on 0442-63933.

NEXT WEEK

A look at what's new at the Computer Shopper Show.

Ken Coomans



• *MIG 29* follows: the game that *Intellivision* should have been.

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MACINTOSH

GOPS!

A bit of a cock-up, I'm afraid. In the March 16 issue of Express, I wrote a feature on Apple's two new printers. Unfortunately, I got a bit wrong. The TrueType typesets Times and Helvetica, which are bundled with the printers, were not created by Bitstream. They were, in fact, designed by Linotype. Furthermore, Times and Helvetica are registered trademarks of Linotype AG and/or its subsidiaries.

Thanks to Sarah Winthrop of Linotype-Hell for pointing that out.

RUMOURS...

So, what's been happening this month? Well, the new Carmel Computers catalogue was pushed through the door, for as thing. For those who don't know the company, Carmel specialises in shifting software and hardware at low prices. To do that, much of the software is 'grey' imported from the States, which means that getting support from the manufacturers is sometimes a little tricky. On the other hand, if you're not bothered about support and vagrants and things, they offer manage to get stuff out at its dear fairly quickly. Anyway, back to the catalogue. It's just a small pot, but sandy when you're photographing your Mac for inclusion

in the catalogue, you'd do well to have a better image on the screen than the floppy disk with a flashing question mark which normally means that something really has happened to your Mac.?

And, of course, System 7 is finally with us. After more than two years of development, it's appeared - and damn good it is too. For the full story, refer to the feature elsewhere in this issue; but as a slightly more sourish note, I was told earlier this week that while programmers and developers in the States are fairly confident in general, there are over 1,000 minor bugs in System 7 which have been identified but which there hasn't been time to fix. Of course, my source for this was totally critical, and I'm sure that the information is incorrect...

FINAL DRAFT

A brilliant package came into the office the other day - so far going to interfere with it about it now. Actually, it's not the sort of program that everyone will want, but for its rather specialised market, it's the best as they say.

Final Draft is a package for writing screenplays. That is, people who want to write screenplays. If that's not what you're into, then the next few hundred words won't be too relevant to you. But

then, we all have our hobbies. If you have a speculated hobby or job and you want to know what's available on the Mac for you, drop me a line for e-mail me or CDQ and I'll do my best to find out what's about.

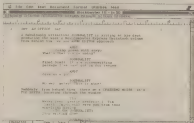
Anyway, back to the plot...

Screenplays are formatted somewhat differently to say, scripts for plays. All character names and dialog are centred, for instance, and various elements of the script have different margin settings. OK, you could format a screenplay with a normal wordprocessor; it's just that it would probably take you the rest of your life to do so. And that's why programs like Final Draft are created - all the formatting is taken care of, so you don't

have to worry that your script will never be read because I don't know how right I'm, it's true. They really do reject scripts for that reason.

The program is copyrighted, a 'feature' I wish people would stop using. Basically, you can either run the program off the floppy at the time which is a pain or you can install it on your hard disk. But if you install it and then you hard disk dies, you can't install it off the floppy again. Sure, the manufacturers will probably give you a replacement copy, but that's hardly the point.

Anyway, that gripe over. Final Draft does its job extremely well. Formatting for each of the different script elements



* Any budding screenwriters out there should check out Final Draft's test will soon be recognised by the millions of dollars you get for your first script...

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(character name, dialogue, transition and so on) is effected by pressing the Command key and then a number between one and six - as you press the Command key, a list appears at the top of the screen reminding you what each of the numbers represents. Macros can be set up to speed the entry of commonly-used phrases and so on: these are accessed via the Option key, and again a list appears at the top of the screen to remind you what macros you have available.

After you've entered a character's name, the program automatically goes

into the correct formatting for dialogue, which saves time: there are other such shortcuts, all of which can be user-defined. The program also keeps an automatically-updated list of 98 character names, so you only need to type the first few characters - the program fills in the rest.

Final Draft automatically inserts 'Word' and 'continued' if dialogue or a scene breaks over a page, and it will automatically number the scenes for you - all of these options are totally user-controlled. If effect, the program makes writing a professional-looking script a

totally trivial matter (except, of course, for having the ideas in the first place).

If you're a budding (or existing) screenwriter, you'll find this program invaluable. Unfortunately, it does not yet have a British distributor, although that situation could change. For now, you'll have to contact the manufacturers, MacToolKit, direct on 010 1 213 395 4242, or to the company on 010 1 213 395 7747. The program costs \$399.95, and if you really wanted to you could use it as a standard wordprocessor too.

See 'Jo Easterhaus' Whigley

POSTCARD FROM AMERICA

I think I'm in love - an object-oriented software affair. I see hundreds of demonstrations each year, but only a few have had such a real impact on my imagination. But I went gaga over *Interactive Physics*, by Knowledge Revolution.

Interactive Physics is a two-dimensional Newtonian physics laboratory computer simulation. Users create experiments by creating objects on the screen, from a draw-like palette. Shapes are drawn, and affected by springs and ropes. The program calculates the stability and motion of the experiment, and then produces a realistic movie.

The program gives teachers and students ways to see solutions that normally could only be read about in a book. Even gravity can be changed, or turned off. If you want to see what the results of an experiment would be on the moon, just adjust the gravity slider to the moon setting.

Included with the program are dozens of great experiments and a 340-page book. Physics interactions. It contains classroom materials, student worksheets and a teacher's guide to the program. The developer actually taught to educators to find out what would

really work. A checking attitude for a software company!

To get a reality check, I called OMNIX's physics teacher, Joe Hightman. He teaches basic physics at San Francisco State University, and runs the computer program at the Exploratorium, San Francisco's science museum.

He said that simulations are always exciting, but most packages (like Stella and Extend) don't actually show on the screen what real objects do. Their output is confined to numbers, and graphs, which is the way most people in the scientific community want to view the information. To be able to manipulate physical objects, and do things to them that you couldn't otherwise do, is really nice.

It also allows teachers to do really violent things that can't normally be done in the classroom. For example, "The car crash example lets you watch some poor guy fall on his leg, and you know it's not hurting anybody. The windshield almost slices him in half, and it's OK." Now we know why the kids go into physics—the smashing and crashing!



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WHOLE WIRED WORLD

There's a whole world of computer news out there and Steve Gold's the man to tell you about it. This week, a compression system that really compresses: multiple updates for Lotus 1-2-3 and Multimedia PCs from Tandy.



WORDUP! BOUGHT BY ATARI

Atari US has purchased the source code and reproduction rights to Wordup! a graphics and word processing system that pioneered the document processing field in the Atari ST marketplace.

As yet Atari's plans for the software are not clear. US spokesman Bob Brodie, however, says that the package may be remixed and released with the ST. This suggests that Atari will bundle the package with all STs sold. According to the Atari on-line newsletter, possibilities include bundling the software with the FSM G-Code and offering it as a free startup package in all new Mega STs and TT computers.

COPYRIGHTING CHIPS



• Preliminary legislation is passing through the US Government to protect chip designs.

Software may be protected under international copyright rules, but did you know that chip technology, technically at least, doesn't seem to be covered? No, neither did I. Maybe that's why preliminary legislation is passing through the US government that aims to encourage the development of worldwide protection for supercomputer chip designs.

According to the US Government,

Lotus' US division has unveiled a new version of its popular 1-2-3 spreadsheet software for PCs. Version 3.3 of 1-2-3 includes an interactive 'What You See is What You Get' (WYSIWYG) display and presentation-quality output capabilities, spreadsheet auditing tools, a file-viewing feature and interactive dialog boxes, as well as improved help facilities and error reporting.

Release 3.3 is for all PC users. IBM- and IBM-based system users are catered for with Release 3.3a, which runs under DOS and OS/2. Lotus is also currently beta testing Release 3.1 Plus, an upgrade to Release 3.1. US shipment expected within the next few months.

Prices remain the same if the US or the upgrade, so the UK pricing should be about the same as well.

LOTUS UNVEILS NEW VERSION OF 1-2-3



• The upgrade to Lotus 3.1 is being beta tested now

semiconductor chip designs are not covered by traditional patent or copyright laws, but instead are covered by the 1984 Semiconductor Chip Protection Act in the US. International copyright law does not, officially, claim, cover chip technology designs that could at change soon.

Government officials claim that the legislation is needed to extend transitional protections for four more years, during which time it is hoped that the US will be able to negotiate permanent, multilateral protection of chip designs. While the US government currently has reciprocal copyright agreements on chip copyright protection with 19 other countries, it has failed to negotiate a truly international treaty to prevent widespread piracy of chip designs. The proposed legislation is designed to correct this.

CHEAP LASER PRINTER

Hewlett-Packard's US division has unveiled what it claims is its most affordable desktop laser printer to date: the HP

PCL 5 printer language, the \$1,595 HP LaserJet HP printer.

According to the company's Palo Alto, California headquarters, the Apple pages per minute unit uses resolution enhancement technology to produce the best 300dpi print quality of any printer in the sub-\$2,000 class.

HP's second Apple laser printer, the new machine is compatible with HP's other PCL 5 laser printers, the HP LaserJet II, III and IIIx printers.

TANDY'S MULTIMEDIA PCs

Tandy's US division, Radio Shack, has unveiled its first Multimedia Personal Computer (MPC) machines.

So what's MPC? It's a PC that, like the original MSX (remember that?), adheres to a set of minimum hardware and software standards for PCs set by a group of computer manufacturers headed by Microsoft and Tandy — at the tail end of last year.

Unlike MSX the MPC standards do not specify that programs designed for one MPC machine will run on another.

What MPC is designed to do is to standardise the multimedia PC environment between PC manufacturers.

Tandy chose the Davis '91 conference in Palm Springs, California, earlier this month, to launch its line new MPC PCs. In addition, the company rolled out a set of conversion kits designed to turn any standard PC — not just its own — into an MPC machine in a few minutes.

Each of the new MPC machines come with a Tandy CDRI-1000 internal CD-ROM drive, a multimedia expansion adapter system with audio circuitry and CDRI-1000 interface, a single 3.5 inch floppy drive, 512K of video memory (for Super VGA graphics) and a mouse supplied as standard.

Three of the new machines come with 2Mb of RAM and a 40Mb IDE drive: the standard — the M2500 XL2, a 16MHz 80286-based system costs \$2,599, the M4000XL, a 20MHz 80386-based system retailing for \$3,299, and the M4100XL, a 16MHz 80386-based system for \$3,999.

The remaining two models in the Tandy MPC family are a 20MHz 80386-based system, the M4025 LX, costing \$4,099, and a 33MHz 80386-based system, the M4033 LX, costing \$5,499. Each comes with 4Mb of RAM and a 105-MB IDE drive.

The upgrade kits come with a choice of internal or external CD-ROM drives, and cost \$799.95 and \$899.95.

Tandy UK has not guaranteed to launch the machines here, but given the high level of interest in MPC technology, and the fact just there are the first MPC systems to actually ship to the marketplace — in the US at least — it's fair to bet you'll be seeing them in Tandy stores soon. In the meantime, you can contact Tandy US for further information on 0101-817-380-3011. ■

ADDSTOR LAUNCHES 'LOSSLESS' PC DATA COMPRESSION SYSTEM

Astor of Menlo Park, California, has unveiled Supersaver a program that overcomes a common problem with data compression systems. Packages such as APC and ZIP file programs compress 70-90 files into much smaller files, reducing the amount of disk space those files require. But because of the nature of the encoding systems used, some files actually expand when compressed.

Addstor claims that Supersaver gets rid of this expansion problem. The 2.02 software package is designed to comply with the Standard File Exchange software

system that was first seen at Comdex Fall 1989. Supersaver, however, is software-only, so it doesn't require a laptop PC, as well as conventional systems. Of course, it's not as efficient as the Standard File Exchange, but it is a dead-end way to install and does not take up any expansion slots.

Supersaver stores data by a factor of two or three. The standard system, which is a ZIP package, compresses just 25% of system data, plus another 15% per drive on the system. If you have a 250MB disk, the program will load into high memory.

The secret of the Supersaver system is that it writes to the disk on a sector-by-sector basis, rather than the cluster system used by standard compression programs. This allows the package to make the most use of available disk space, to write the error-checking codes and to the actual data regardless of the disk surface, the orientation of sector recording through the heads.

Contact: Addstor, 7000 Branham Drive, Menlo Park, CA 94025, United States. Tel: 0101-415-986-0175.

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TECH TIPS

Need power that can be portable, but last for longer than a few hours? Bought a second-hand machine and can't get it to work? Holding on to some terrific tips that other readers could use? Write to Keith Pomfret, Tech Tips, New Computer Express, 30 Manmouth Street, Bath BA1 2BW.

PC Colour Swift

FOLLOWING a recent review in the PD column I bought Neochrome Master, Intel's colour kit to my Citizen Swift II printer, but could get some of my masterpieces on to paper. I have set the appropriate dipswitch on the printer and using printer driver supplied with my ST, which has been informed of the change to colour, cannot get any response when I ask it to print from any source I have tried.

The printers can be set to print in any single colour or my choice and mechanically the printer colour kit seems to be functioning. Have I missed some single step to setting things up, or should I get someone to look at my printer, or should I get someone to look at the ST?

Frank Savage, Solihull



• It's a lovely printer but you'll need the right driver to get the best from it

BEFORE you have the printer or the ST consigned to the repair man, there are still a couple of cheaper avenues open to you. Firstly, are you using the correct printer driver? A telephone call to Citizen could help, but in my opinion your best bet is to contact a reputable PD library. PD libraries tend to have disk copies of utilities and printer drivers and more importantly, know the problems that people have had pursuing different configurations of different printers to work with various programs. Often, a printer driver may work with several programs and then fall over with others.

Your salvation is probably through picking the right driver for the job. Try Goodman PD or 0182 339550 before you trek off to your repair man.

Amiga DTs

PLEASE can you try to point me in the right direction with two problems on my A500:

1) The mouse-pointer "jitters" when in some positions on the screen. It alternates between two adjacent pixel positions at about 3Hz. This also happens when, for example, using GPaint brushes. Very annoying.

2) Joysticks fail to move "right" most of the time, though the other directions are OK. This happens with two different joysticks, which are OK on other computers.

I have looked very carefully at the joystick-to-motherboard connections, which I understand have been known to fall, but can see nothing unwise. There is nothing else wrong with the computer as far as I can tell. I suspect Denise, but before looking out rather a lot for a replacement. I'd be glad of your opinion on the matter. Anyway, Agnes is loved too, isn't she?

A friend (and a friend)

question: My AdRAM RAM expansion occupies the topboard (and pluggs-backs the Gary chip) so I obviously cannot use the KCS PC board. But what about the ATOne? Is that likely to work properly in the presence of the AdRAM?

CR Beames, Chesham

IF YOU are experiencing a jittery mouse pointer and it is always at the same place, you should have the Amiga and specifically the mouse port looked at by an expert.

Things that you can try to eliminate possibilities are a different mouse (although it doesn't sound as if it's the mouse) and test it if your software will see if any are unaffected.

Your joystick problem also points to a problem within the Amiga. As this sort of problem can be caused by a short circuit, it's necessary to get it sorted straight away. A chat with Amiga technical afternoons Mark Smiddy confirmed that there shouldn't be a problem running an ATOne with

AdRAM, but he pointed out that the ATOne connector should be plugged into the Gary socket, then the AdRAM connector and then finally the Gary (Gate Array) chip.

Voda-Moda

Is there a way of connecting a mobile phone to a modem without using an acoustic coupler? The acoustic coupler loses data and the line drops out too much to make anything but the shortest text file viable. My phone is a Panasonic II and I am on the Vodafone net.

Charlie Mooney, Wigton

CONTACT Reed for details about the CDLC data modem. It costs £500 and there's a cable available to allow you to connect it directly to your phone. The modem is catalogue number 88101K206 and the cable is 55601K007. Reed is on 0655 508296. (And watch the phone bills... they're like heretic.)

Speedy Spooky

Here is a tip for programmers and the like who are fed up on the slow editing on the 528 specs. The simplest way of doing it is to simply press edit in the basic mode and choose screen option. Since the editor only has two lines to scan as opposed to the whole screen the editing is much quicker. However, if your listing is more than two lines long to each line number, the editor will get confused as some of the listing is on screen and some isn't.

Here are a few things you may not know about the RAM disk in the 2K and 32 using the screen option make a nice pattern of something on the screen. Save it to RAMdisk by typing "Save M". Then type "EraseM", screen 1. Then try leaving it by load "EraseM", screen 2 and notice how quickly it comes on screen.

The other thing you may not know is that you can save

variables on to the ROM disk, so you need not worry about crashing the computer after you have saved some essential info because the RAM disk does not get erased when the machine crashes or if you accidentally type "new. I'll leave you to work out how to do it.

Adam Tomkowiak, Inverness

THAT SHOULD kick in the turbo for Spectrum programmers wanting to cut delays down a bit. If anyone has any useful programming tips, send them into the usual address.

PC upgrader

Where can we get a 16MHz all in one system board to upgrade a PC to an AT?

Mark Walsh, Norwich

YOU COULD try any of the following:
The Chip Shop 061-478 5070
Chipboards 0463 797659
CMD 0333 331188
RSD 0953 211050
Warfed 0925 37774
H Volage 081-681 3022
We recently built a rather nice 386 for the office using bits bought from Silica Shop on 081-309 1111 and can heartily recommend it.

Under cover

The Pison Organiser is a pocket sized useful computer and you don't give it much coverage. My problem is that I need more software than is provided with it and can't find any.

Mostly, I need a database III catalogue the various chrome parts that I carry in my classic auto business. This way, when I talk a client, I can check instantly whether the part needed is in stock. The computer dealer said that he doesn't stock flipperies for toys like the organiser and that I will need to make a serious hardware modification to the organiser to make it run a database. What modifications do I need to make, is it within the

scope of an enthusiastic creator and what will it cost?

Martin Bormae (no relation)/Bibchester.

WHAT YOU want to do should be possible without hardware modification, although that will depend on the size of your database. If your database is too big for the Pison, you may need to break it up into discreet sections and load them separately.

For a full catalogue of what's available for your organizer, give Pison a ring on 071-292-5580.

TIP! Arnie's friend

THE AUTHOR of your disappointed "Nifty CPC Plus" might like to have a few more tips about his new machines. I owned the original Arnie and then the CPC128 and gained a great deal of knowledge and satisfaction from them.

There is one book which I'd strongly recommend: *Ready Made Machine Language Routines* for the Arnie/28 by Joe Pritchard, Melbourne House Publishers.

However, it is best to buy the excellent Maxam Assembler from Arnie Ltd. In its neat ROM form inside a Rombo box it gives wings to the 286. Not only does it have the full Assembly Editor environment but blocks of Assembly Language can be used simply from inside Basic programs - very effective speed it needed.

The range of software available in ROMs from Arnie don't stop there. There are several others, including *Protest* (and what could be better than a resident word processor and spelling checker!), especially my favourite BCP1 - a real pedigree compiled language which is a good way to start learning real structured programming, and so slick is well there is also an excellent book on BCP1 for the serious student.

The CPC - a disappointing machine? No such thing - look at the good software it has built

up for it; and can you name even a top-price computer that has a word processor like *Protest* in ROM which is there at switch on?

John Gray, Eastbourne.

YOUR LETTER reads like a top fan turbo upgrade kit for the CPC and we heartily endorse your choices.

It's interesting that you mention BCPL. This is a language that has lived in the shade of 'C' and all of the other trendy computer languages for too long. Scraping around in the Express archives I found several references to it from four years ago but it seems to be out of fashion. If my memory serves me well, some of the original Arnie development was done in BCPL, as well.

TIP! Experience

The library managed to weigh my carrier bag down with books about simple electronics projects and book learning is fine, but as my teacher used to say (back in the 50s!) "There's no substitute for hands-on practical experience."

I don't see your magazine every week, but a friend remembered you having looked at a kit that teaches what electric and electronic components are and what they do. Could you either repeat the article or tell me where to get the kit from?

Martin Troon, Telford.

WE COVERED two electronics projects in Circuit City. One was an all-the-shelf kit from Tandy for about £30 that documented 130 electronics ideas which could be built using the kit. These ranged from simple circuits using only a few components to more complex things such as radios and moisture meters.

The 130 in one Electronic Project Lab from Tandy is battery powered and contains documentation to guide you through each project. The other electronics project we covered took the concept of the Tandy multi-project and built it on to a modular bread board.

The best way to approach what you

want to do is to start off with a Tandy kit and as your familiarity with practical electronics improves, then consider building something for yourself using the breadboard principle. Keep tuned to Circuit City for more breadboard ideas.

TIP! Laptop power

Compared with a year ago there are dozens of portable computers on the market. The problem seems to be battery life. No matter what the manufacturers say, all of the magazine reviewers agree that most machines won't last above a couple of hours away from the mains. If I buy a portable machine and am tied down to maintaining a power cord every couple of hours, it isn't much use to me in the flexibility stakes.

What alternatives do I have? Some of the stronger machines like the Pison and the Pison MC series look to run MSDOS, but there's no way of getting things in and out other than down the serial port. Is there a non-disk drive MS-DOS portable that will connect to a disk drive by some sort of docking mechanism for loading and unloading to a standard disk drive?

Helen Jones, Llandelli.

MOST of the non disk drive machines have some way of transferring other than by a serial cable. The Pison MC series that you mentioned has a disk drive interface built in and an optional 3.5-inch floppy drive available from Pison allows you to read and write 720K and 1.44Mb disks that can be used in a standard PC.

There are two Pisons available, but the £1,295 MC600 is the only one that uses MSDOS. Another (and cheaper) solution to your problem is to use a standard laptop and carry extra battery packs. With laptops costing as little as £400 for a floppy drive model and £500 for one with a 20Mb hard drive, it's worth considering spending some of the money that you've saved on a couple of



• Using a floppy laptop with extra battery packs is the cheaper way to compute on the move.

spare battery packs.

If a machine lasts two hours on a pack and you have four packs, you've enough power to be productive for a working day. If your idea of mobile is being able to work in the car, you can utilise the car's battery with some laptops that have a car cigarette lighter adaptor.

TIP! Big floppies

At an auction, I bought an old CPM computer with four built-in hard drives and four floppies.

When I got it home, I found that the floppy drives are an unusual size, over two inches wider than the more common 5.25 inch disks. Is this useful? Where can I get more of the disks? Also, can you think of a good practical use for the machine?

Mark Payne, Portsmouth.

A LOT of the older CPM machines used 8-inch disks. While they aren't readily of the shelf products stocked by all and sundry, most computer retailers can still get them. Alternatively, by computer tape, the Air Format Show, or even radio retail as a source of cheap second hand disks and machine spare parts.

A good practical use for the machine is perhaps a bulletin board. I contacted to Dave Gensik of Asparta BBS in Manchester and he confirmed that for some months, a CPM machine had been the home of his BBS. In order to set up a BBS, you'll need some coding software and a good automatic modem. If you're working on a budget, you'll find that there are some excellent BBS software packages available in the public domain. You'll need an auto-answer modem too. ■

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- a word processing program
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- a small program with no code

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TIP! Arch upgrader

The Arnie with its cruddy operating system, nasty blue workbench and snail's pace disk drives has finally been laid to rest. A trade in for an Archimedes has allowed us access to the machine that we really wanted when we bought the Arnie as a cheapie.

During the dark days under the Commodore, one useful and educational thing that we managed to do with the Arnie was sample, manipulate and use sound.

The AS80 didn't crash or burn, we learned quite a lot about noise and spent many a pleasant hour messing with sounds sampled from CDs.

Is there a simple to use and understated sampling package for the Archimedes?

Martin Walsh, Peterborough.

FIRSTLY, if you're using someone's copyright sounds from a CD you should make sure that the Copyright holder gives you permission. This means writing to record companies, but better legal than looked up...

The software package that will do what you want is Archimedes from Claves and this supports several hardware sampler boards (Archimedes, Armaudio, and Uniflex to name but three). To get a copy of this whizzy program contact your local computer shop or if they

haven't got it, ring Claves direct on 0606 48511.



• It's no spelling mistake. Archimedes is a ROM compatible sampler for the Archimedes.

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THREE STEPS TO PERFECTION



Updating, debugging or using a program that you haven't looked at for six months can present an endless stream of problems. Mary Branscombe shows you how to make easy work of it.

However good the program that you have just written is, it will seem terrible when you come back to it six months later and try to understand how it works. It will be even worse if you didn't write the code in the first place and you have to use it. Update it or debug it.

There are a number of ways to make programs easier to understand and most of them are referred to under the catch-all heading of 'programming style'. That can cover anything from instructions in your code to the use of variables and constants in your program.

COMMENTS

Putting comments in your program that tell you how it works and what does what will be the easiest way of making it easily understandable at a later date. You should always write some form of documentation, telling the user what the code does and how to use it, but the comments are for programmers who need more information.

You should write the comments as you write the program, so that they form a running commentary. If you have problems with the code, the comments can help to show what's going wrong and what you thought a piece of code was going to do. If you add comments once the program is working, you will be tempted to leave things out because they seem so obvious. Be careful - they will seem anything but obvious to another programmer, or to you in six months time.

The compiler ignores all the comments: they are only there to help you, which means you can put in as many as you like. They won't make the program any less efficient and they should make the programming much easier.

If you write out a plan for your program, you can include it in the program file as the basis for your comments. Use the relevant line of the plan to introduce each section of code and then explain what is going on in each section.

You can use comments at the beginning of the program to give you some useful information. You should always include a header something like this:

```
*Title: mortgage.c
Author: M.Branscombe
Date begun: 4.2.91
Date revised: 26.2.91
Purpose: calculate monthly mortgage payments
Syntax: InterestCalculator, amount, amount borrowed
Comments: this deducts tax relief from payments.
```

Tidy up the program!

This makes it easy to find out which version of the code you are looking at and how to edit the program you have written.

You can use the Comments section of the header to make a note of any changes that you need to make to the program, so that you can see at once what has to be done.

You also need to keep track of the names you use in the program: for variables, constants and procedures. It is very easy to incorrectly type the name of a procedure or to use the same name for two different variables. If you include lists of each of these at the beginning or end of the program, with a short description of what each one does, then you know what you are using. If you need a new variable, you can easily check that you aren't using an existing name. If you get a syntax error that says something like 'undefined identifier', this means that you are using a variable that you haven't told the program about. If you haven't simply forgotten to define the variable, then you may have spelt it wrong somewhere in the program. Making a list of variables means that you have to decide on one form of the name and use it.

SAY WHAT YOU MEAN AND MEAN WHAT YOU SAY

Unless you are programming in a language that restricts you to unambiguous variable names, usually a single letter, try to use meaningful names. For the program to calculate monthly interest payments from the interest rate, the amount of the loan and the length of the mortgage, you will need variables to hold these and probably some temporary variables to hold intermediate calculations. You could use X, Y, Z, A and B, but that won't make it easy to see what is going on: if you want to extend the program or just debug it, Variable names like InterestRate, AmountOfLoan, LengthOfMortgage, Temp1 and Temp2 will make things much easier.

However, don't make the names too long. The more you have to type, the more mistakes you are likely to make and long names may be split over two lines, making it harder to see the layout of the code.

Some languages, like Prolog, will insist on variables beginning with upper or lower case letters. Even if it makes no difference to the compiler or interpreter, you can also capitalise it make the code clearer. Decide on a way to distinguish constants, variables, procedures and keywords. It doesn't matter what you do as long as it is readable and you are consistent. One way is:

• All variables begin with a capital letter, so you get

Variable and AnotherVariable.

Put constants in capitals: CONSTANT

• Put any keywords in lower case: while, for, do

• Write procedure names in lower case, using hyphens. Underlines or capitals to separate words: interestCalculation, interestCalculation or interestCalculation.

UNDER AN ALIAS

There will usually be one or two things in every programming language that you are always getting wrong, because you can't remember the construction. For example, many programmers who have used other languages confuse the equality and assignment operators in C. If you write `a = b`, you are copying the contents of variable `b` into variable `a`. If you write `a == b`, you are checking whether the contents of `a` and `b` are the same. If you find that you are writing `a == b` instead of `a = b`, you can define another operator for equality - an alias for `==`.

This code will define an operator called `is` which C will translate into `==` for you every time.

```
#define is ==
```

Now you can write

```
a is b
```

If you are used to the Pascal assignment operator `:=`, you may find `is` difficult to use and you could define another operator instead:

```
#define ASS :=
```

Now you can write

```
a ASS b
```

If you want to break up large C constructions, you can define an alias for a blank space. There is no `is` keyword in C and the `is` construction can be confusing, because it is simply while condition action and you may find it difficult to tell which is the condition and which is the action. If you define `is` as a blank space, you can put it into your code and the compiler will ignore it so that you can write while condition do action. The code would be:

```
#define is do /* blank space */
```

Other languages have similar facilities. In Prolog, you can define English words as operators, to make the code easier to understand. You simply decide whether the word will go before or after a clause or between two clauses and define it as `prefix`, `suffix` or `infix` accordingly. The codes for `is` are `is`, `is` and `is` - refer to the operator and `is` to the rest of the program. You can then write:

```
is op(Add, rdx, 3991,
```

```
check FirstValue and Second Value:=
```

```
check FirstValue,
```

```
check Second Value.
```

The number is used to decide which operator the computer will deal with first. The multiplication operator has a value of 4000, for example, and will be the last thing that the computer looks at in any clause that involves multiplication. ■

The EVENT HORIZON

Who's doing what, with what, with whom, how, why and where...

THE PLACES TO BE...

Computer Shopper Show 10-12 May

At the Alexandra Palace, London. Info: 081-668 4466.
PC Database Day 19 May

At the Ramada Inn, West London.

The host companies are Nantucket UK, which supplies the Clipper package, and System C, supplier of the Sycon program generator family. Fox Software will give its first full UK demonstration of Psepho 2.0, a dBASE IV compatible relational database management system.

This follows a talk from Hentley Business Software on its range of client-server packages that link together applications running under Windows. The day finishes with the exhibition of Superbase 4 from Precision Software.

Other companies will be there, providing add-ons for the Clipper, Foxpro and dBASE packages. Admission is free.

Call 071-385 1255.

All Remata Computer Fair 30 May & 1 June

At the National Motorcycle Museum, Southall on 5 June, and at the New Horticulture Hall in London on 16 May and 22 June. Info: 0225 868 100.

IBM ROM Europe 21-23 May

At the Novotel, Hammersmith, London. Info: 0730 60535.

Virtual Reality 91 5-8 June

At the Conference Forum, London. Info: 071-631 9585.

DBS/MC 91 2-4 July

The document image processing exhibition/conference at the Wembley Conference Centre, London. Info: 203 226 6967.

PC World Forum 9-14 July

In Moscow. Info from Telecom Cos on 010 1 508 660 6122.

The International 16-bit Computer Show 12 July

The 16-bit Computer Show, for Amiga, Atari and PC users, is now in its fourth incarnation. Like the previous one, which attracted more than 150 exhibitors and 21,000 visitors, it will be held at the

Novotel Hotel, Hammersmith, London.

Visitors can try out and buy just about any hardware and software. Many new products are also expected to be launched, both in the home entertainment and professional areas.

So far 100 companies have booked space, including Amiga, Checkmate, GFA Data Media, H-Soft, Memory Expansion Systems, Precision Software and Rombo. Another 40 to 80 are expected.

Advance tickets cost £3, call 0776 68020. Admission on the door is £5.

The Leeds Computer Extravaganza

13-15 Sept

At the New Exhibition Centre at Leeds University. Info: 0532 677 657.

Image Processing '91 28-31 Oct

NEC, Birmingham. Info: 081-668 9933.

Computer Graphics '91 5-7 Nov

At the Alexandra Place in London. Info: 081-668 9933.

Desktop '91 5-7 Nov

At the Alexandra Place in London. Info: 081-668 9933.

Computers in the City 13-14 Nov

At the Barbican Centre in London. Info: 081-668 4466.

Golden Moments

• God may not be a computer, but he certainly gets some help. It was a year ago this week when Express reported the computerisation of the Vatican. (a) telephones, invoicing and warehousing (where the incense is kept, presumably) are all controlled by a collection of Bull DBPs and PCs.

"Man's pre-eminence over machines must be remembered," said the Pope on a visit to Olivetti.

• This time last year ago also saw the first civil action being taken under the Data Protection Act.

Nell Foster decided to take proceedings against the Home Office and Wiltshire Police Force after being wrongfully arrested and charged with crying while disqualified. However information on their computer had led them to the wrong man.

Thankfully, after four months of work, Nell managed to track down the real culprit and clear his good name, but not before losing his job, car and savings and being threatened with a prison sentence. It makes checkpoint failures seem a bit more palatable.



• The Arc - disappointing price.

• It was two years ago when Acorn released the "cheap" version of the Archimedes machine, the A3000.

It is the only home computer to use the advanced RISC (Reduced Instruction Set) style 32 processor, a system which sacrifices some of the obscure machine code instructions in favour of incredible speed benefits. It also has high-resolution colour graphics and a sophisticated multi-tasking operating system.

It was priced at £699 without a monitor - a figure which disappointed many industry pundits, hoping for something more competitive. Looking back, it now looks like a mistake: the Archimedes certainly hasn't taken off in the way it deserved.

MEL COUCHER - TEN YEARS AFTER



• Mel Croucher: bringing the fun back to games.

was some controversy that the price didn't exist.

Mel: Oh, ye ol' little lark. Yes, two school teachers in Berkshire won the golden diamond. It took them two years.

Q: Who wrote the stories about Jack the Dwarf in America?

Mel: Me, with Ian Dury, John Parry and Frankie Howard. You could say it was the first celebrity endorsement of a computer game.

Q: Where were you happy with its success?

Mel: Well, since it was sold mostly through mail order, it did pretty well. When you look at games today, they sell say five thousand copies. By the time shops, distributors and publishers take their cut, they can't be earning much more.

Anyway, with a Spectrum and a tape recorder, what can you expect? It's about two years' time then it'll be machines ready for it. CD-ROM looks interesting...

Q: What have you been doing since?

Mel: Journalism, writing books, consultancy work. I did a Despatches program for Channel 4 on a computer crime. Q: What do you think of the games industry at the moment?

Mel: Well, the graphics and sound are very flashy, but the game play is often a bit iffy.

SOFTOGRAPHY

Title	Publisher	Year
Can Of Worms	Automata	81
Piranha	Automata	82
Gaucha	Automata	82
Doug Ex Machine	Automata	84

still ping pong and chess. Everybody's playing so safe. The machines are good, though. It used to be that software led the industry, now it's the machines.

Q: What are you up to at the moment?

Mel: Paul Cooper and I have teamed up for the first time in six years; and I can't wait to get back in and invent. The Finian is back, now called Euraman and living in France. In a few weeks we'll be launching a whole series of game modules, each with a prize: air tickets, cars, that sort of thing. The big one will be a chess in France.

We'll probably get lynched, because it's all PD. But the software industry has been good to me in the past. I'd like to give it something back. Share and enjoy.

The programs will run on Amigas, STs and PCs. Any interested readers should send an a/c to PO Box 190, Southampton, SO9 7XK.

Mel, inventor of the computer game budget compilation and multi-media package, has some big news...

Q: First, what sort of background did you come from?

Mel: I'm an architect. I used to build skyscrapers in the desert for a Sheikh. I'm also a musician and writer - a bit of a Renaissance man. I got into map making, visual and audio guides, and then into computers by a natural progression.

Q: Did you write the games yourself?

Mel: No, I worked with Paul Cooper (of Quiksilver, Electric Dreams, Thelma!), I worked on the ideas and graphics, and did the cartoon ads that appeared on the back of Popular Computing.

Q: Did anyone ever win Piranha? There



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Cardroom PDL sent a pretty whacky piece of shareware my way this week. It's an ST game for arcade buffs and bonnie alike. Does anyone remember Jeff "Yak" Meier? That heavily bearded Atari programmer with a dubious grip on reality? He has surprised us time and time again with his colourful shoot-'em-ups and incredibly weird psychedelic programming techniques.

More famous even than his programming skill, is his fascination with lamas, camels and all things hairy. He comes up with some pretty bizarre ideas; past games include *Revenge of the Mutant Camels*, *Colourspace* and many other wacky creations.

Now Meier has really outdone himself. His piece de resistance comes in the form of *Llamatron*. To understand the concept of *Llamatron* you need to know only two things.

- One: Kill everything
Two: If it doesn't die, pick it up.



• *Llamatron*: Very strange but lots of fun.

THE PD COLUMN

Mild mannered reporter by day, PD nut by night, Frank O'Connor checks out the latest and greatest Public Domain Software. This week: Llamas, music and light...

Based on the ancient Williams coin-op *Robotron*, you have to guide the llama spirit around a screen absolutely infested with 32 manner of bizarre alien weapons. We're not just talking twisted shiny green *Robotron*. Oh no, you have to deal with rampaging *Coke* cars and heeled vicious *Mandalbrot* sets.

You can fire your powerful laser in any direction, blasting the crowds of nasties. They will follow you around, often cornering you in the most hellish confines of the screen. All the bad guys behave in very different ways. Most follow you around stupidly, but many perform acts of completely utter violence. Exploding shapen monsters are hard to avoid.

At various points you can rescue stranded baby llamas, towing them behind you to safety. Safely comes only when you have obliterated everything on the screen. Some ill these llama sprigs below extra weaponry upon your poor overworked spirit. Three way shots and

smart bombs being especially useful.

The pace is frantic because there is so much happening on screen at once. Getting used to the sensory overload this game presents takes some doing, but once you get the hang of it, the mindless carnage is quite exhilarating. No moral worries either. I mean, who cares if a *Mandalbrot* Set gets killed? No-one that's who and quite rightly so.

The graphics are absolutely perfect.

'Pace is frantic and the mindless carnage is exhilarating'

colourful, fast and detailed. The sprites are gorgeous, full of character and perfectly descriptive of the twisted workings of Jeff Meier's unusual brain.

Special mention must go to the sound produced by the ST while this game is running. Some of the most



• There aren't too many rules to learn

impressive samples you will ever hear blast from the monitor as you play. Better still plug it into a stereo to hear the blood curdling screams as the *Coke* cars smash it, or your own death cry.

Considering this is a shareware program, you would have to be mad to miss out. Especially as 'subscribers' receive a bundle of goodies including a free game. *Llamatron* is a genuinely outstanding offer.

I advise all ST shoot-'em-up fiends to check this baby out without delay.

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LOOK

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The program is of such high quality that we could easily have put it on sale for £50 or more!

However, Amiganuts and the Author, Teijo Kinnunen, want it to be within the reach of all Amiga enthusiasts, so we are keeping the price down.

You can purchase this great program for only £10.00, within Europe, (£15.00 rest of the world). The price includes return post and packing.

Payment in pounds sterling only, if ordering from overseas, send a bankers order/Eurocheque etc. (Credit card orders will not be accepted).

Because of the exceptionally low price, it comes without glossy packaging and one page of printed documentation. (Instructions on the disk)

Please note that you are advised not to purchase this program if you only have the basic half-meg, as it does hog a lot of memory.

A full instruction manual for this program may become available later, but due to the high costs involved, it will be quite expensive!

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The Amiga Coders Club disks are packed with source, hints, tips, advice from many of the well known coders that are on the Amiga scene today. Issues 5, 6, 7, 8, 9, 10, 11 now available. Please note, excluding the compressed introductory disk, Amiga Coders Club disks are £3.00 per issue.

ACC must be at our birthday issue, (available 19th May). It is a 9 disk set and for the next two months you can buy both disks for £3.00!

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SUPER AMIDASH

There has been quite a surge in recent months of Boulderdash clones. Now Amidash has made its contribution to this game with Super Amidash. Basically, it involves running around a creature filled cavern, avoiding monsters and collecting jewels.

The nice thing about the original Boulderdash was the suspense and tension. Thankfully, this atmosphere has been successfully maintained in the all-new PD offering.

The caverns you encounter are full of rocks and earth. Digging away the earth, if it is supporting a rock, causes that rock to fall. This can cause a fairly huge chain reaction. Rocks can fall over the place, possibly killing or trapping your cute little spars. As you might imagine, this isn't a good thing.

The graphics are nice and colourful, although hardly spectacular. Sound effects and the whole thing is well presented.

What makes the game worthwhile however, is the fast, smooth gameplay. Even if you've tried of Boulderdash it's still well worth a look, just because of its outrageously addictive qualities. I could hardly put the blasted joystick down. It's one of those games which you just have to beat and I suggest that every Amiga owner should have one.

INCREDIBLE COLOURS

A rather interesting Amiga utility turned up this week, courtesy of Seventeen Bit Software.

Called HamLab, this particular program comes over as a very difficult problem. Imagine you have saved an IBM PC VGA screen, with the full 256 colours. Now, there is no way to port this over to an Amiga and fiddle about with it. The Amiga can display 4096 colours, but only in Hail and Moistly mode.

This graphic mode is very difficult to work with, and trying to edit files saved from other machines is laugh.

HamLab performs this duty with astonishing simplicity. Entirely console, the most difficult part is getting the PC file onto an Amiga disc. There are several utilities available that will do the job most satisfactorily.

Once you sort out that problem, you can load the VGA pic into HamLab. The clever little program then allows you to convert the 256 colour VGA pic into HAM mode. There are two ways to do this. TrueHAM allows editing and modifications can be made to the image. DreamHam allows the picture to be displayed, but no changes can be made to the image. The picture and colour quality are considerably enhanced in DreamHam mode, and the images are very sharp indeed.

Still, the finished HAM version of the original VGA screen is perfectly adequate for all but the most extreme perfectionists. For those of you who have more computers and money than sense, it should also be noted that the same process can be performed on colour Macintosh images. Mac 2CX images for example, can be handled quickly and in much the same way. Mac colour screens also have 256 colours (depending on which card the machine sports) and are displayed perfectly.

A strange, but useful utility which is simply itself to use. And at that price (virtually nothing) who's complaining? ■

ZOUNDS
AMIGA ZOUNDS

AmigaZounds is a world-class action-adventure game, set in a dark, atmospheric world. It's a game that's been in the making for a long time, and it's finally here. It's a game that's been in the making for a long time, and it's finally here.

AmigaZounds is a world-class action-adventure game, set in a dark, atmospheric world. It's a game that's been in the making for a long time, and it's finally here. It's a game that's been in the making for a long time, and it's finally here.

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WHERE TO GO

Seventeen Bit Software is fairly famous in Amiga PD, so write to:
Seventeen Bit Software, PO Box 87,
Walsfield, WY1 1XX. Tel. 0924 260862

For even more juicy Amiga Public Domain, contact Amiganuts United at:

Amiganuts United, 189 Dale Valley Road,
Southampton, SO1 6QZ. Tel. 0703 785680

If it's ST PD you want, then check out
Caledonia PD, who can be found at:
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Inverness, RT 4PT. Tel. 0403 225736

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THE FOLLOWING IS A VERY SMALL SELECTION FROM THE PUBLIC DOMAIN/SHAREWARE COLLECTION THAT WE HAVE COLLATED OVER THE PAST FIVE YEARS

AND OSAMAD SAMPLES RACE. See disks that are packed with SAMPLES for use with this excellent music utility (note this one is VERY RUDE)

MD V2.12. Not compatible to OSAMAD. (See above) If you simply want to write with the keyboard, it will satisfy (1 Meg is advised)

1047: TETRIS V2 with a head The extra facilities on this new version are unbelievable and would take half a page to describe

1047: UCE V2 See the very latest version of this very popular add-on program by Rick Bates. The new features are very good

963: ADAMS FAMILY Good pics of this infamous family 1 Meg £1.50

967: NASA PICTURES Good HD pics of space missions 1 Meg £1.50

390: POWERRIDER by Neo Games. Excellent drive-in 4 Meg £1.50

100: D-COW V1 Excellent cow program. Full instructions £8.50

704: A GOOD DRINKS + A GAME The Quaker Cowboy who is good 1 Meg £1.50

798: ULIS The famous foot-shop. Boot-Bit + others £9.50

101: NORT V1.3 (3 disks) C Assistant etc by Steve Haven £8.00

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1048: DO THE BARTMAN A fantastic version by Freeborn 1 Meg £2.00

943: THE DEFINITIVE JARRE SHOW Good music & pics by HCC £1.50

971: THE VIRUS KILLER It recognizes and kills over 700 of the pests + other excellent features (inc. hard drive protect)

990: AMIGA C CLUB MANUAL V5 is now ready Loads more info, source and help from Anders Eggen. Now Auto-Booting and on four disks

996: THE LATEST AND GREATEST SETUPS PROG TO RE-DEFINE YOUR KEYMAPS, plus a host of other utilities, (lock design, icons, clip etc.)

1046: STAR TREK MEGADRAM Another well presented two disk set from Tobias Richter, containing pictures, animation and music 1 Meg £2.00

1021: GAME COMPILATION. Superb, a good version of the Pole-Ganders. Plus Running and Snelzest, both with a full game editing

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SOFT DRIVING

Route planning software allows you to choose where you are going from, where you'd like to go to and then does the hard work like calculating the best route for you to take.

Autoroute Plus 4 offers a host of new bells and whistles and brings the program into the era of pull down menus and mouse control. The basic package includes a digital map of Britain, France or mainland Europe and the program to calculate routes in miles or kilometres and cost them in any currency for various vehicles. When working out routes the program tries as many as the memory of your PC will allow and highlights the quickest and shortest ones. A version is also available that works on a network.

SUCCESS STORY

When software house NextRose introduced Autoroute on the PC in 1987, it was an immediate success. It offered a quick and reliable way of calculating a route. In its original and basic form it offered an entertaining program that did a useful job, was state-of-the-art at the time and would run on a twin floppy drive PC.

As people asked NextRose for more features an updated Autoroute Plus was introduced. This was designed so that various add-on modules could be used to customise the program to the users' individual requirements. Autoroute Plus 4 is the logical development of this route planning software incorporating a radical rethink making it more user friendly and improving the display which is now white with the roads and features in similar colours to a road atlas. Mouse control and pull down menus make it easy to use so that a beginner can have the program running in minutes.

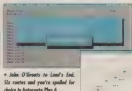
INSTALLATION

To install the program, you put a disk in the floppy drive and type HDINST. On-screen prompts take you through disk swapping while your hard drive takes in the data.

After it has installed the main program, it asks if you have any modules or the like to load. If you think the job of installation is done and type 'N', you will get a surprise - there are no maps and the program is unusable. The maps have to be installed with all of the extra modules and so must be considered an extra. It's a pity that a professional program has such a hiccup in the installation procedure. However, the instructions in the manual include the extra disks, but the on-screen prompts were not as lucid as they could have been.

All of the modules can be installed in the same way from the same menu and the total time taken to install Autoroute Plus 4 with UK and European map data and a couple of extra modules was around 20 minutes from opening the box to firing up the program.

Route planning software can be entertaining as well as productive. Keith Pomfret gets behind the wheel and test drives Autoroute Plus 4, the latest version of the program that started it all...



John O'Driscoll to Land's End. Six routes and you're spoiled for choice in Autoroute Plus 4.



All roads lead to the Worlidge Gap. The Express Caravan blue tour for motorway go-rounders.

GOING PLACES

Starting as a life-sciences coupled with a healthy dislike for Corbin Bleu had as planning the food fantasia of the nineties. To put Autoroute Plus 4 through its paces, a big round 31 of Britain's motorway cafe was planned.

As a second course - (but not one the editor would hanker) a similar trip around mainland Europe pushing Autoroute Plus 4 to its 99 stop over limit was tried. The program allows you to break your journey for any length of time, at up to 99 places. It can also take into account the working day and restrict travel to specific hours.

Back to the first course. The journey started at Farthing Corner (near Maddington) on the M2 and finished at Toddington (near Luton Airport) on the M1. Normally this straightforward 60 mile motorway journey would take no more than an hour and 15 minutes. With a round trip and a detour to call and wave at the motorway cafe, though, it was destined to take a little longer. Allowing long enough time to rush from the car to the restaurant and take a longing look at the motorway layne, the whole stop tour of the cafe was timed at 16 hours and 30 minutes. This was a simple enough route for the program to calculate and the office Goldstar 386 PC churned out a route in seconds. We decided to give it something a bit more complicated - John O'Driscoll to Land's End should put it to the test. On the first attempt using the European Gazetteer a bug was discovered which had us catching lemons and travelling the length of Ireland to get to Cornwall.

A call to NextRose's marketing director, Simon Anthony, confirmed that there was a problem in the early review version of Autoroute Plus 4 that would be gone but that it had been fixed in production versions.

Another useful feature in Autoroute Plus 4 is a

menu of 'slider' controls that allows you to make your choice of preferred route. While calculating John O'Driscoll to Land's End, there were a lot of motorways on what was supposed to be a scenic drive. A preferences feature available from a pull down menu allowed us to change the way the route was calculated to avoid motorways and A roads. With motorways the journey was 875 miles and took nearly 16 hours. The pretty route was 28 miles further and took 36 hours to drive.

AT THE END OF THE ROAD

Autoroute Plus 4 is a well specified core program that can be configured and upgraded to the requirements of most users. With the European database and a few modules, it can eat a serious lump out of the budget, but any company planning reps rounds or deliveries for will save the cost in saved fuel and tedious distances.

Up until last year, Autoroute had the territory to itself, but with the advent of Navigator from DPS and other PC route planners still to come, it is now holding its own in an increasingly competitive field. ■

SYSTEM STUFF

- 512K memory
- DOS 2.2 or greater
- One floppy and a hard drive with 2Mb of spare space
- Supports VGA, EGA, CGA, Hercules, Super VGA.
- Printer drivers for HP Laserjet, Postscript, Epson, Canon LBP-8
- Microsoft or Mouse Systems mouse

HOW DOES IT RATE?

FOR

- ▲ Intuitive
- ▲ Versatile
- ▲ Easy to use
- ▲ Quick

AGAINST

- ▼ Copy protected
- ▼ Can be expensive with all of the modules added
- ▼ Mouse control jerky at times
- ▼ Manual could be better and installation awkward

HOW MUCH WILL IT COST?

Autoroute Plus 4 (not including VAT)	MODULES	Hydrography (GB)	149
UK	CD45	Gazetteer editor	£145
France	CD45 +	Railways and Grid	(Free on registration)
Europe	CD45	Optimisation	£145
		Isobathone planner	£295
	Including gazetteer	Network pack	£295
	editor and	Admin boundaries (GB)	£49
	optimisation module	Postcodes	£195
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DIGITAL DIARIES

Electronic organisers are more than just fancy Filofaxes with LCD screens. Dave Golder checks out whether the Casio Digital Diary can do more than just keep track of lunch appointments.

Where once the Filofax ruled, the electronic organiser is now reigning in. Capable of holding a volume of information that would require a leather binder the size of suitcase to contain it in written form, the new generation of hand-held computers has the added advantage of being able to communicate with PCs.

The Casio Digital Diaries are the latest range of electronic organisers to hit the market. The SF-9500 is the top model with 64K RAM and a 32 by 8 character LCD screen. About the size of a cigar case, the SF-9500 is a stylish-looking product with smooth contours, a matte, dark grey case and a well laid-out keyboard with subtle hints of chrome. Weighing about nine ounces it sits very comfortably inside a jacket pocket.

The Cherry keyboard has raised, well spaced out keys and while it is still easy to accidentally press two keys at once (a problem with most hand-helds because of their size) it seems to happen less with the SF-9500 than most.

One annoying feature of the SF-9500 is that you can only set the tilt of the screen at two angles: about 45 degrees or completely flat. If you are using the unit on a desktop in a bright room where the light is shining at just the wrong angle this can make the screen very difficult to read.

MAKING LISTS

The modes included as standard on the SF-9500 are the equivalent of the different sections of a Filofax. There are modes for setting up a telephone number and address list, compiling a business card list, writing names and setting down appointments. The Digital Diary scores over its paper counterpart by also providing a calculator and a clock showing all the world's time zones.

Entering new information and recalling existing data is extremely simple, the whole process being very user friendly. The accompanying manual explains everything clearly with useful diagrams and lists of the key presses you have to make.

The procedures for entering and recalling data are roughly the same in all modes, so once you have discovered how to cope with, say, setting up and using the telephone list, learning how to use the other modes will

be simple. It should take just a couple of hours to become fully conversant with the organiser.

The SF-9500 can hold up to 2,000 telephone numbers, 1,800 appointments and the internal calendar runs up to 2099. Imagine the size of your Filofax binder if you tried to note down that lot.

But if you do need to store information externally the unit incorporates an IC card system, the equivalent of floppy disks for PCs. You can use them to store information you have input into the organiser, but equally they can be used to run software.

The software available for the SF series is a bit limited to spelling checkers and dictionaries of legal and medical terms, but Casio is promising that 'quite a few goodies of a more practical nature should be ready later in the year'.



• The Casio Digital Diary SF-9500 looks good, but is it attractive more than useful?

TRANSFERRING DATA

Two peripherals already available, however, are Dataport and Datalink. One of the major problems with hand-held computers is trying to transfer data to other hardware. Both these packages are specifically designed to make such operations on the SF-9500 simple and painless.

Dataport allows you to print out data from the

organiser on any centronics interface printer. The package consists of nothing more than a lead which runs from the SF unit to the printer. Once connected all you have to do is select the print mode on the organiser to create hard copy.

You can print individual entries, such as one business client, or all the data stored in a certain mode, as the complete telephone list. You can also print out calendar months with the days when you have appointments marked out. The only drawback is that you cannot control the positioning of the printout on a sheet of paper from the organiser; it always starts at the extreme left.

Datalink allows the SF-9500 to send data to, and receive it from, a PC. The package comprises the connecting cable and the Datalink software for the PC (supplied on 3.5-inch and 5.25-inch disks). The actual software can be run on a PC without connecting it to the SF-9500; it produces a simulation of the operations available on the organiser on the PC, complete with pull down menus and full colour. But once the PC and organiser are linked, data can be easily transferred between the two.

This requires little more than plugging in the connecting cable and setting the parameters on the PC. All the necessary information for baud rates, parity, and so on is clearly listed in the manual, and the whole operation should take just a couple of minutes.

Unfortunately, you cannot transfer individual items of information, only groups, such as all the entries listed in the telephone list. Also you must make sure to lock the information on the receiving unit, whether it is the PC or the organiser, otherwise any incoming data will overwrite any existing data. Locking data is as simple as pressing a function key, but it is all too easy to forget and lose some important information.

The Casio Digital Diary SF-9500 compares very favourably with other electronic organisers, both in terms of price and functions. But if you are looking for something that looks stylish and is functional then this is the organiser for you. ■

The SF-9500 retails for £195. The Digital Diaries range starts at £99.99, though the cheapest model which can be linked with a PC (the 7500) is £120. Casio can be contacted on 081-450 9131.

SO HOW DOES IT RATE?

POINTS FOR

- ▲ Very compact and stylish, but still resilient.
- ▲ Easy to read LCD screen.
- ▲ Simple to install and use peripherals for linking up to printers and other PCs.
- ▲ It features various modes, such as business card and telephone directory, already set up and easy to use.

POINTS AGAINST

- ▼ Tilting on the screen is a bit fiddly and can only be set in one position.
- ▼ You can only transfer groups of data to a PC, not just one individual entry.
- ▼ It is easy to hit the wrong keys.
- ▼ Limited software (at the moment).

THE COMPETITION: 64K RAM ORGANISERS

ARMANDO

Designed for the business user, the Armando is a 64K RAM organiser with a 32 by 8 character LCD screen.

It features a variety of modes, including a business card list, a telephone directory, a calendar, a clock, a calculator, and a time zone converter.

The Armando is a compact and stylish unit, weighing in at just 100g.

It is available in a range of colours, including black, silver, and gold.

For more information, contact Armando at 081-450 9131.

Software for the Armando is available on a 3.5-inch floppy disk.

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SEVENTH HEAVEN

It's been a long, long time coming but Apple finally released System 7 to a waiting world this week. And the early indications are that it has been well worth the wait. Apple has made what many see as the decisive move in the user interface battle, guaranteeing that it will be years before the likes of Microsoft's Windows can claim to offer the same sort of functionality.

For until Windows appeared – and, realistically, until Windows 3.0 hit the scene – PCs could rightly be seen as coming a very poor second to the Mac in the user interface battle. Windows 3 changed that to some extent – Mac users still claimed that their machine's interface was far superior, but at least PC users had something to argue with. So, just how much better is System 7 than Apple's previous operating systems and is the Mac once more firmly at the forefront of the user interface race?

The first thing that you notice when booting up a Mac running System 7 is that the interface's visual look has changed somewhat. While not going overboard, the designers have decided on a semi-3D appearance, which makes things like scroll bars and zoom boxes look much better than the old-style, black-and-white versions. Unfortunately, users of older Macs – like the Classic, Plus and SE – will have to make do with the old look – the new appearance is only for those with grayscale or colour monitors. And, sadly, the new look does not extend as far as the dialogue boxes – they are just the same as they always were; at least, they are at present, although it's up to programmers to decide if they remain that way or if they will change to fit in better with the new look of the rest of the interface.

The Mac now permanently runs a new version of MultiFinder, called the Process Manager. MultiFinder was Apple's solution to some form of multi-tasking on the Mac, and was loved by some users and hated by others. The Process Manager is a far more sophisticated beast and allows a far higher degree of multi-tasking – but only for those programs which make

Over two years in development, the Apple Macintosh's new System 7 operating system has finally arrived. Ian Wrigley takes a close look at the front-end to end all front-ends...

use of its facilities, which means that those currently available are unlikely to multi-task any more than they do at present.

UP AND AWAY

To fit in with the image of the Macintosh as a user-friendly machine, System 7 has something called 'Balloon help', which can be switched on at any time simply by selecting a menu choice from an always-present icon on the menubar. When active, balloon help is context-sensitive: small 'speech bubbles' appear whenever your cursor points, telling you what each item does – not only menu choices, but also things like close and zoom buttons, scroll bars, the wastebasket and so on. New programs written to take advantage of System 7 will have support for balloon help built in, so that, for example, turning help on in a paint package will enable the user to point to the painting tools and get a description of exactly what each one does without having to resort to the manual all the time.

Some programs already implement a context-sensitive help system of this kind, but Balloon help will mean that all applications will, in future, implement help in the same way – another example of Apple's philosophy that all programs should appear as similar as possible to the user, to reduce the time spent learning a new application.

GET CONNECTED

An area that Apple has targeted very strongly with System 7 is networking. This is an area where Macs have always been prominent – unlike PCs, which

require an extra plug-in card to network together, Macs have a built-in network called LocalTalk. But until System 7, users had to use either free software such as Public Folder or Apple's own AppleShare software to take advantage of the networking. But now, each Macintosh on a network can appear to other users as if it were a file server, meaning that files and even applications can be shared by any Mac on the network.

A Mac's user can decide which files or folders should be shared, and can allow only certain users to connect to them, password-protecting some or all of the files. And all this comes at no extra cost – Macs are automatically networked together simply by connecting them to a printer: there's no extra cable to buy, and no interface cards required.

DATA TRANSFER

When the Macintosh first appeared, Cut and Paste were fairly radical concepts – suddenly, users could transfer data from one application to another without worrying about file compatibility and the like. System 7 takes the idea a step further with Publish and Subscribe – which can be likened to live Cut and Paste.

Rather than copying data from an application to the clipboard, a user can choose to 'publish' a selection of data from an application. Any other application which supports the protocols (and almost all new applications will) can then 'subscribe' to the data, which appears rather like it would if it were pasted from the clipboard. But if the data is changed in the publishing application, that change is echoed through to the subscribers, meaning that the data is always up to date. So, for

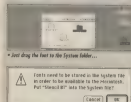
One of the major complaints that Macintosh users have always had is that installing fonts is such a complicated business. You had to put the printer font loose into the System folder, along with the .sfd file if you had any applications which used it. Then came the nightmare of Font/DA mover: Would the font install, or would the Mac

crash – sometimes damaging the System file itself so that it had to be re-installed?

System 7 cures all these problems with the introduction of a 'smart' system folder, an easier way of installing fonts, and best of all, the introduction of the new TrueType font technology. Installing fonts is now a

simple, one-step process: just drag the font to the System folder, and the Mac will do the rest.

If you are still using PostScript fonts, you also still need to put the printer fonts into your System folder, but you can at least put them into a sub-folder, keeping the System folder tidy.



...and the Macintosh will do the rest.



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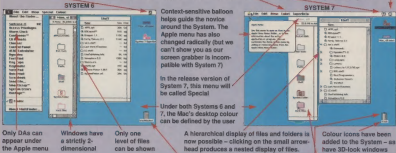
SYSTEM 6 VERSUS SYSTEM 7

MultiFinder must be explicitly selected

In System 7, the colour menu has been replaced by 'label', although it does exactly the same thing: it allows the user to assign a colour to any file or folder

Balloon help is accessed from this icon

The Process Manager (the new version of MultiFinder) is permanently 'on'



In the States, the wastebasket - where files and folders to be deleted are dragged - is called the Trash, as it is in our beta copy of System 7

Files and folders can now be 'shared' among Macs on a network

instance, it figures from a spreadsheet were subscribed to by a graphics program to create a pie chart of the values, then that pie chart would always be accurate - changing the numbers in the spreadsheet would change the pie chart. Microsoft says that it will produce a similar facility in the near future - probably in Windows 3.1 - but Apple has got there first. Indeed, there are already some applications using Publish and Subscribe - notably Claris' new programs. Developers are being asked to implement Publish and Subscribe in their new applications and to upgrade existing ones; it won't be long before the majority of applications use this system to share data.

SMALL THINGS...

Some of the benefits of System 7 don't, at first glance, seem to be particularly spectacular. It's only after they have been used for some time that the true benefit becomes evident. For example, the Apple menu has changed radically. Whereas before only desk accessories could be accessed from the menu, now any application, file or folder can be set to appear in the menu, simply by placing it in the 'Apple menu items' folder.

Also, desk accessories can now be launched simply by double-clicking on them - so there is no difference between DAs and applications as far as the user is concerned.

Any Mac with a memory management chip (which means most of them except the LC and the compact Macs) - Plus, SE, Classic and so on - can now take advantage of virtual memory. If you have a top-of-the-range Mac (a Ixi or Ili) and a large enough disk drive, you can fool your machine into thinking that it has a stunning four gigabytes of RAM in play with! For those with more modest needs, and a far bit of hard disk space, a virtual 12 or 16Mb of RAM is no problem (although Apple recommends that you limit this to double your actual RAM size, so if you have a 4Mb Mac, don't set more than another 4Mb of virtual memory - because of speed considerations).

Even small things like the way lots of files are displayed have been improved. Any folder's contents can be displayed without actually opening another window, simply by clicking on the small arrow next to the folder; the display will then expand to show the contents of the folder.

THE HISTORY OF SYSTEM 7 - AND WHAT'S NEXT?

System 7 was first announced over two years ago by Apple; since then its launch has been postponed numerous times due to 'technical difficulties' - indeed, few people actually believed the 13 May launch date until a few weeks ago when it became clear that Apple had announced the date in too many places for it to be postponed.

The programming is done by a team of software engineers at Apple's headquarters in Cupertino, California. The software teams are led by people known in Apple terminology as 'Software Evangelists'. Yes, there is a genuine job title, which dates from the days of Steve Jobs. Apple's co-founder, who wanted people to think of Apple and the Mac as 'a way of life', rather than just another computer and product.

The release of System 7.0 is not, of course, the end

of the story. The software teams will be spending the next few months breaking the system as it goes through the inevitable releases 7.0.1, 7.0.2 and so on. Their attention will be turned to 7.1, which will contain a number of upgrades to features like Publish and Subscribe which will improve their functionality, as well as new features - one much-rumoured possibility is the inclusion of button electronic mail.

And, of course, System 8 is on the far horizon. Although not even officially acknowledged by Apple yet, it is inevitable that a new release of the System will occur at some time in the future. It is likely to be a couple of years before System 8 appears, but when it does it will contain features such as a Mac, full multi-tasking and quite possibly button click.

Watch this space for details...

THE FUTURE

System 7 means that the Mac's user interface is unquestionably the best available for small computers (the NeXT machine doesn't really fall into the 'small computer' category). Windows has a long way to go before it can even equal the new standard set by Apple, while interfaces like those on the ST and Amiga are left well and truly in the shade.

And it doesn't stop there. Rumour has it that when asked about the progress of System 7 over the last few months, programmers at Apple's Cupertino headquarters replied: 'System 7? Hell, we're working on System 8 already!'

MACINTOSH JARGON

APPLICATION: programs are known as applications in Mac circles.

DA: short for Desk Accessory. A DA is a mini-application which, prior to System 7, could only be run by accessing it from the Apple menu. Typically, things like calculators were DAs, since they can be easily accessed while another program is running. To some extent, MultiFinder made DAs less necessary. In System 7, a DA can be run by double-clicking it. In the same way as any other application.

DOCUMENT: Mac-speak for 'file'. Any file created by an application is known as a document.

FOLDER: a folder on the Mac is the equivalent of a subdirectory on most other computers. Files, applications and other folders can be placed in folders.

MULTIFINDER: the Mac's solution to multi-tasking. When MultiFinder is running, more than one application can be open at once.

WASTEBASKET: files and folders are deleted by dragging them in the wastebasket. Then, when 'Empty Wastebasket' is selected from the 'Special' menu, the file is deleted.

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